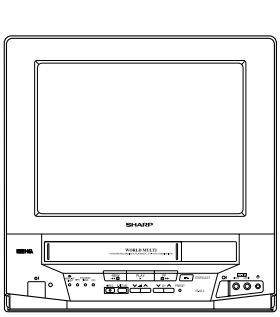
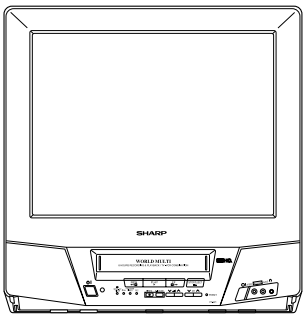
SHARP SERVICE MANUAL

S11N9VT-G14//



VT-G14



VT-G21

TV/VCR COMBINATION
TELEVIDEO
Chassis No. VP-7

MODELS VT-G14 VT-G21

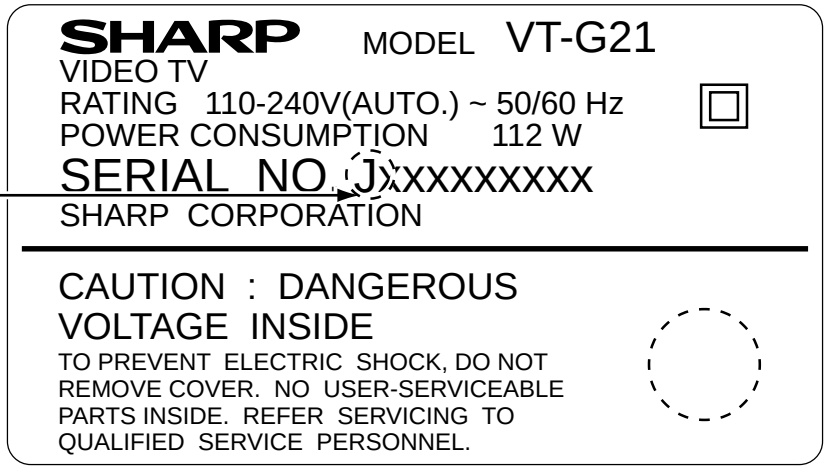
In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

FEATURE

- Full Auto Search Tuning System
- On Screen Digital Channel/Sound Level/Tuning Display, Control (Contrast, Colour, Brightness, Tint, Sharpness, White temp) Symbol and Level
- Blue Back Off Timer
- 39 Key, Wireless Remote Control Unit
- Channel Skip
- High Speed and Double Speed Video Search System
  - PAL/MESECAM : 3 times/7 times (SP/LP)
  - NTSC : 3 times/5 times (SP/LP)
    5 times/15 times (EP)
- DPSS (Digital Program Search System)
- Quick Start Playback with Full Loading System
- Digital Automatic Tracking Control
- Automatic Playback Function
- AHC (Automatic Head Cleaning System)
- Sharp Super Picture
- 345 Times Hi-Speed FF/REW

The component parts of this model are partially different depending on their suffix symbols. Before servicing the units, be sure to check the suffix symbol on the model label that is applied on the back of the unit.

Example of suffix symbol:


SHARP MODEL VT-G21
VIDEO TV
RATING 110-240V(AUTO.) ~ 50/60 Hz
POWER CONSUMPTION 112 W
SERIAL NO. JXXXXXXXX
SHARP CORPORATION
CAUTION : DANGEROUS VOLTAGE INSIDE
TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Suffix "J" for Russia

WARNING

The chassis in this receiver is partially hot. Use an isolation transformer between the line cord plug and power receptacle, when servicing this chassis.
To prevent electric shock, do not remove cover.
No user — serviceable parts inside. Refer servicing to qualified service personnel.

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SPECIFICATIONS

■OUTLINE OF THE PRODUCT

Power Source:	110~240 V AC, 50/60 Hz
Power Consumption:	**VT-G14** : 94 W
	VT-G21 : 112W
Receiving Broadcast Standard:	B/G, I, D/K, M
Receiving Channel:	VHF; 1A~S36
	UHF; S37~C57
Receiving System:	Sound; 5.5/6.0/6.5/4.5 MHz
	Colour; PAL/SECAM/NTSC
Antenna Input Impedance:	VHF/UHF; 75 ohm Unbalanced (DIN)
Video Signal:	Input; 0.5~2.0 Vp-p/75 ohm (RCA)
	Output; 1.0 Vp-p/75 ohm (RCA)
Audio Signal:	Input; 0.5 Vrms/10k ohm (RCA)
	Output; 0.5 Vrms/1k ohm (RCA) (54% MOD)
Temperature:	Operation; 5°C to 40°C
	Storage; -10°C to 60°C
Dimensions (Approx.):	**VT-G14** : 378 mm (W) × 387 mm (H) × 384 mm (D)
	VT-G21 : 505 mm (W) × 503 mm (H) × 478 mm (D)
Weight (Approx.):	**VT-G14** : 12.7 kg
	VT-G21 : 23.5 kg
Cabinet Material:	Plastic
Accessories:	□ Operation Manual
	□ Infrared Remote Control Unit
	□ Dry Batteries, Type AA (×2 pcs.)

■TV SECTION

Viewing Area:	**VT-G14** : 33.54 cm Diagonal Measurement
	VT-G21 : 50.8 cm Diagonal Measurement
Picture Power:	**VT-G14** : 22.0 kV at 800 µA Beam Current
	VT-G21 : 25.0 kV at 1100 µA Beam Current
Speaker Output:	**VT-G14** : 3.0 W at Max. (5×9 cm oval type ×1pc.)
	VT-G21 : 3.0 W at Max. (5×9 cm oval type ×2pcs.)
Picture Tube:	Type; **VT-G14** : VB370BVBK1S-S (Tint Tube)
	VT-G21 : VB540ADAC1S*S (Tint Tube)
	Heater; **VT-G14** : 6.3 V, 300 mA
	VT-G21 : 6.3 V, 600 mA
	Focus; High Bi-Potential Electrostatic

■VCR SECTION

Outline:	VHS Video System Colour Video Cassette Recorder
Format:	VHS PAL/NTSC Standard
Video Recording System:	Rotary Slant Azimuth 2-Head Helical Scan System
Luminance:	FM Recording
Chrominance:	Low Frequency Converted Direct Recording
Video Signal System:	PAL/SECAM(MESECAM Rec)/NTSC 3.58MHz Colour
Cassette Tape:	VHS Type Video Cassette Tape
Tape Width:	12.7 mm
Tape Speed:	PAL ; 23.39 mm/s (SP), 11.70 mm/s (LP)
	NTSC ; 33.35 mm/s (SP), 16.68 mm/s (LP·PB only), 11.12 mm/s (EP)
Recording/Playback Time:	SP ; Max. 240 min (with E-240)
	LP ; Max. 480 min (with E-240, PAL only)
	EP ; Max. 480 min (with T-160, NTSC only)

Note: The antenna must correspond to the new standard DIN 45325 (IEC 169-2) for combined UHF antenna with 75 ohm connector.

Specifications are subject to change without prior notice.

IMPORTANT SERVICE NOTES

Maintenance and repair of this receiver should be done by qualified service personnel only.

SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove static charge from it by connecting a 10k ohm Resistor in series with an insulated wire (such as a test probe) between picture tube dag and 2nd anode lead. (AC line cord should be disconnected from AC outlet.)

1. **Picture tube in this receiver employs integral implosion protection.**
2. **Replace with tube of the same type number for continued safety.**
3. **Do not lift picture tube by the neck.**
4. **Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage completely.**

X-RAY

This receiver is designed so that any X-Ray radiation is kept to an absolute minimum. Since certain malfunctions or servicing may produce potentially hazardous radiation with prolonged exposure at close range, the following precautions should be observed:

1. **VT-G14: When repairing the circuit, be sure not to increase the high voltage to more than 25.3 kV, (at beam 0 μA) for the set.**
   VT-G21: When repairing the circuit, be sure not to increase the high voltage to more than 29.3 kV, (at beam 0 μA) for the set.
2. **VT-G14: To keep the set in a normal operation, be sure to make it function on 22.0 kV + 1.5 kV – 2.0 kV (at beam 800 μA) in the case of the set. The set has been factory – Adjusted to the above-mentioned high voltage.**
   VT-G21: To keep the set in a normal operation, be sure to make it function on 25.0 kV ± 1.5 kV (at beam 1100 μA) in the case of the set. The set has been factory – Adjusted to the above-mentioned high voltage.
   ∴ If there is a possibility that the high voltage fluctuates as a result of the repairs, never forget to check for such high voltage after the work.
3. **Do not substitute a picture tube with unauthorized types and/or brands which may cause excess X-ray radiation.**

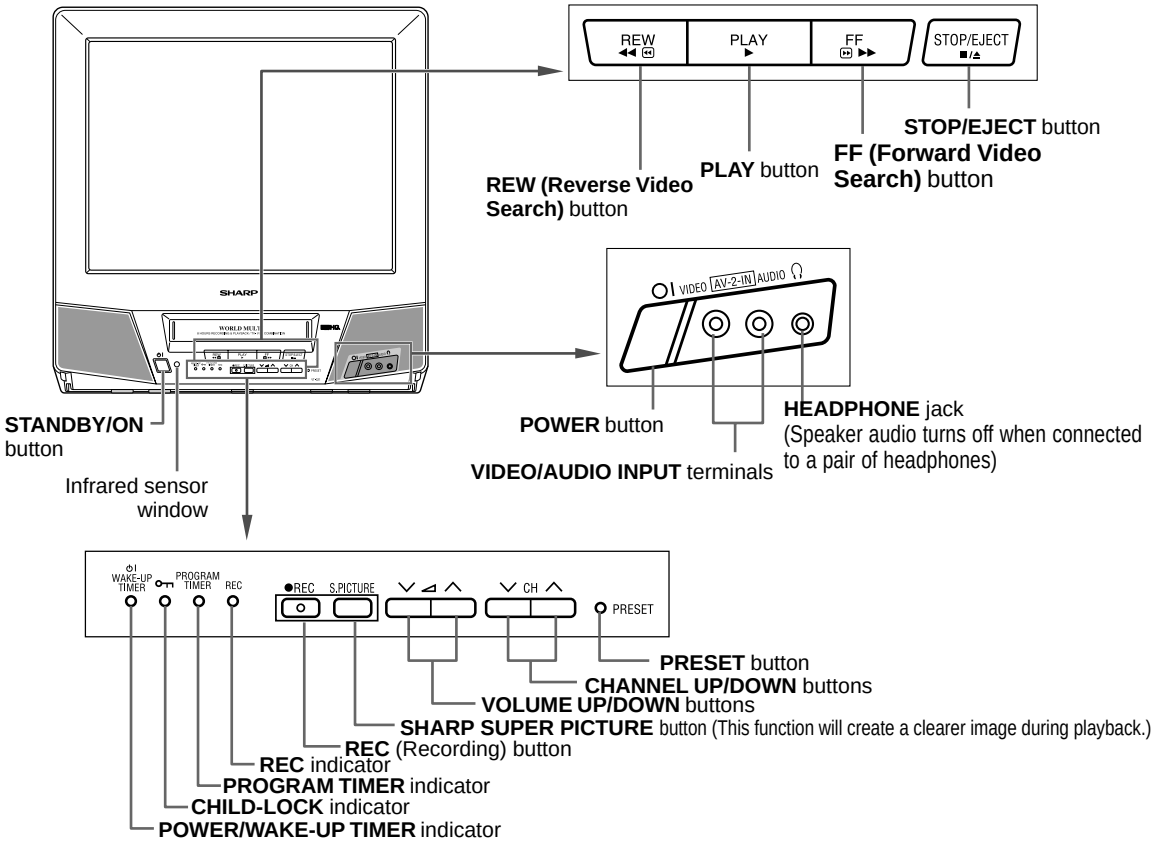
BEFORE RETURNING THE RECEIVER

Before returning the receiver to the user, perform the following safety checks.

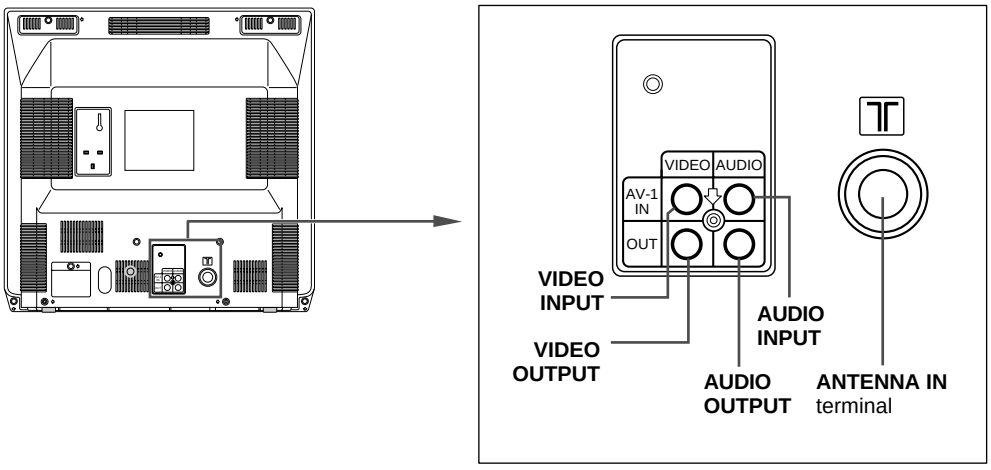
1. **Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.**
2. **Inspect all protective devices such as non-metallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators etc.**

LOCATION OF USER'S CONTROL

Front



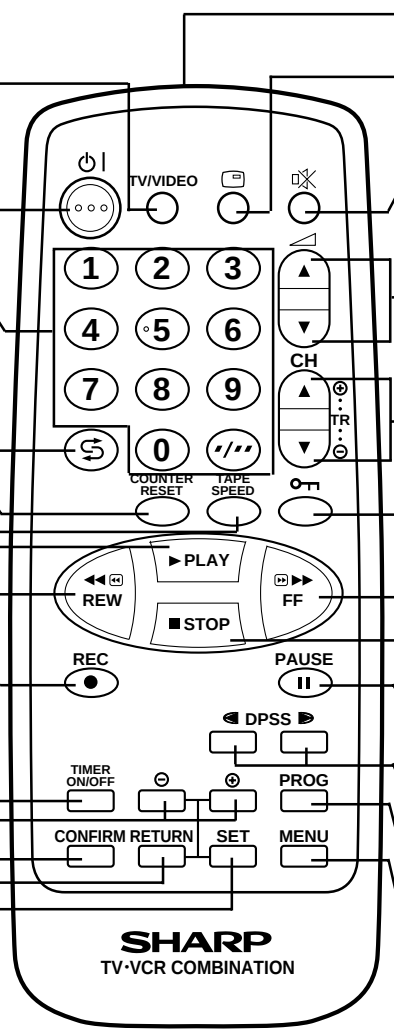
Rear



This service manual is for VT-G14 and VT-G21. The illustration of VT-G21 are used in this service manual.

LOCATION OF USER'S CONTROL (Continued)

Remote Control



Infrared Transmitter Window

TV/VIDEO Select button

STANDBY/ON button

CHANNEL SELECT buttons

FLASHBACK button
Returns to previously viewed channel.

COUNTER RESET button
- Used to reset the tape counter.

TAPE SPEED button
- Used to select the recording tape speed.

PLAY button
- Used for tape playback.
- Used to cancel the PAUSE/STILL mode and return to normal playback operation.

REW button
- Used to rewind the tape or to conduct Reverse Video Search during playback mode.

REC button
- Used to record a programme.

TIMER ON/OFF button

⊕, ⊖ buttons

CONFIRM button
- Used to confirm the programme setting.

RETURN button

SET button

DISPLAY button
- Used to display the different current settings on the screen.

MUTE button
Press → Mutes sound.
Press again → Restores sound to previous level.

VOLUME UP/DOWN buttons

CHANNEL UP/DOWN buttons (TRACKING ⊕/⊖)
- Used to select the CHANNEL.
- Used to adjust the TRACKING while playing the tape.

CHILD-PROOF LOCK button
- Used to lock any selected mode.

FF button
- Used to fast forward the tape or to conduct Forward Video Search during playback mode.

STOP button
- Used to stop the tape.

PAUSE button
- Used to temporarily stop the tape during recording mode.
- Used to display a still picture during playback mode.

DPSS buttons
- Press the (▶/◀) button to search for the index signal and begin playback automatically.

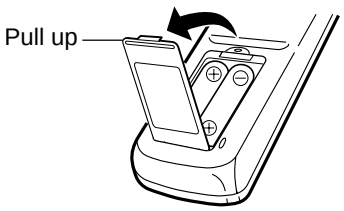
PROGRAMME button
- Press the button to set the programme Timer.

MENU button
- Used to select the menu screen.

■ Installing dry batteries in the remote control unit

Before using the TV set for the first time, install the supplied dry batteries in the remote control.

Inserting batteries



❶ With your thumb nail, pull up the slit as indicated by the arrow to remove the back cover.

❷ Insert two batteries (size “AA”). Be sure to match the battery ⊕/⊖ terminals with the ⊕/⊖ marks inside the compartment.

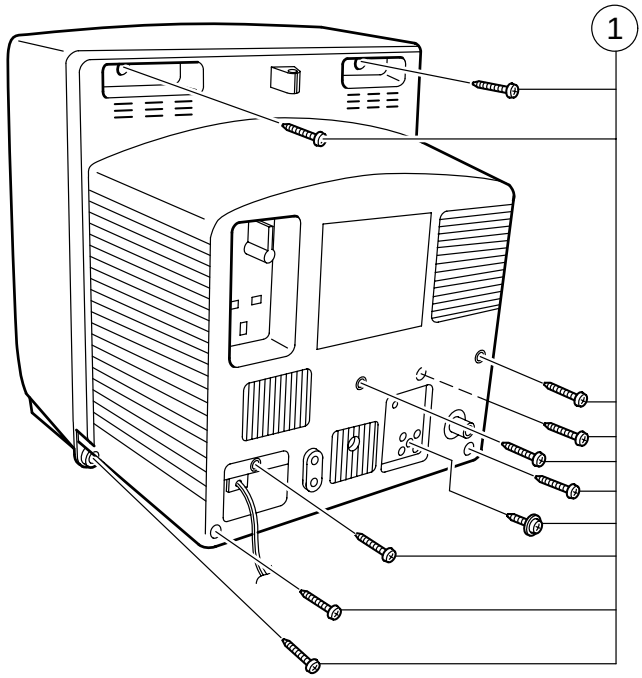
❸ Replace the battery cover.

NOTE
- Remove batteries if weak or if the unit is not in use for long periods.
- Do not mix old and new batteries.
- Incorrect installation of the batteries may damage the remote control.

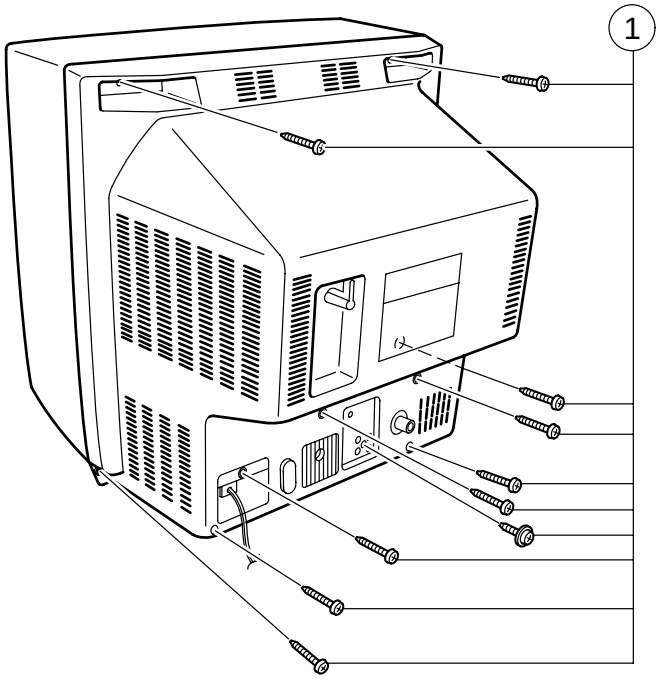
DISASSEMBLY AND REASSEMBLY

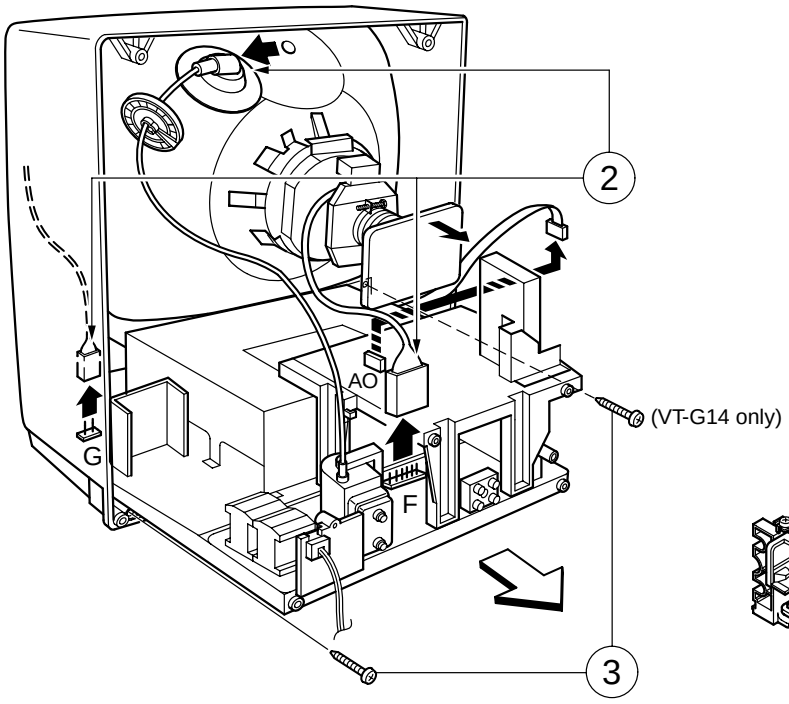
1. Remove the 10 rear cover fixing screws and detach the rear cover.
2. Take out the anode cap, CRT PWB, connectors F, G and AO, coating ground, SP chip, fixing screws and others.
3. Remove the 2(VT-G14)/1(VT-G21) Main PWB fixing screws and take out the Main PWB unit and the Power PWB.
4. Remove the 4 Power PWB fixing screws, and take out the Power PWB unit.

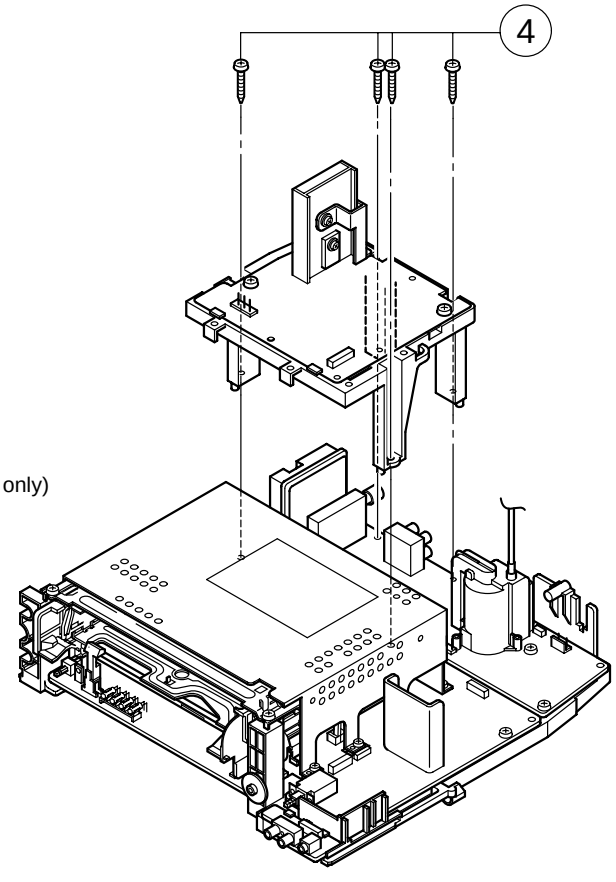
VT-G14



VT-G21

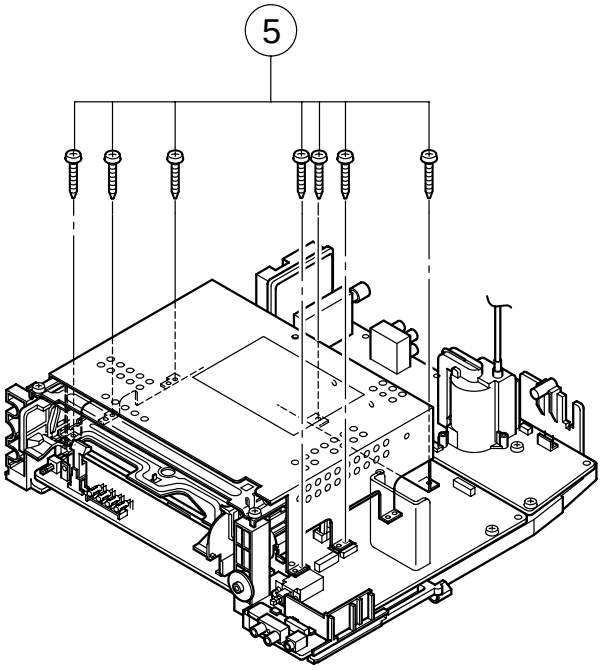


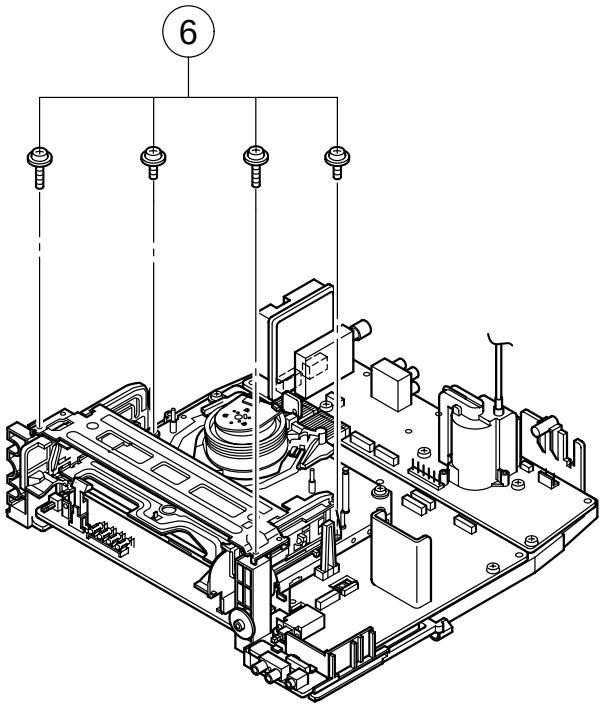


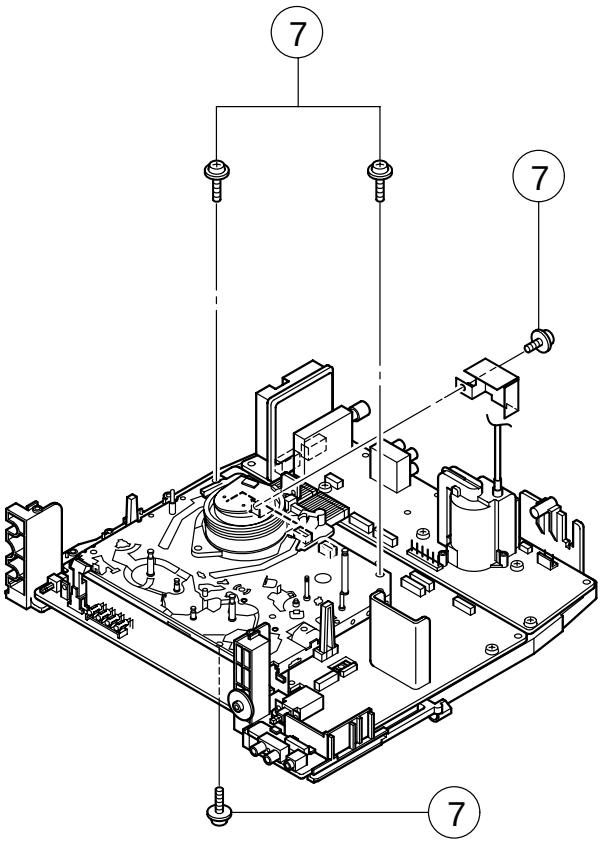


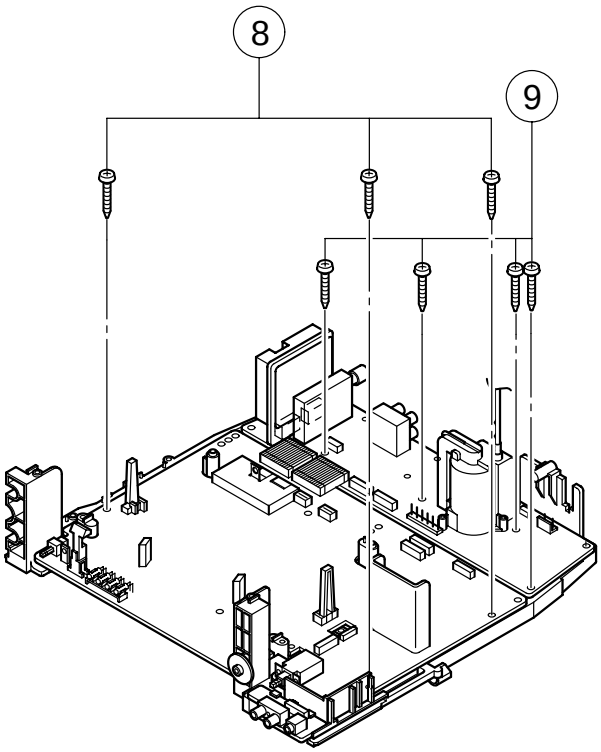
DISASSEMBLY AND REASSEMBLY (Continued)

5. Remove the 7 VCR fixing screws, and detach the shielding case.
6. Remove the 4 cassette housing control fixing screws, and detach the cassette housing control.
7. Remove the 4 mechanism chassis fixing screws, and detach the mechanism chassis from the Main PWB.
8. Remove the 3 Main PWB fixing screws, and detach the Main PWB.
9. Remove the 4 Tuner/Def and IF PWB fixing screws, and detach the Tuner/Def and IF PWB.



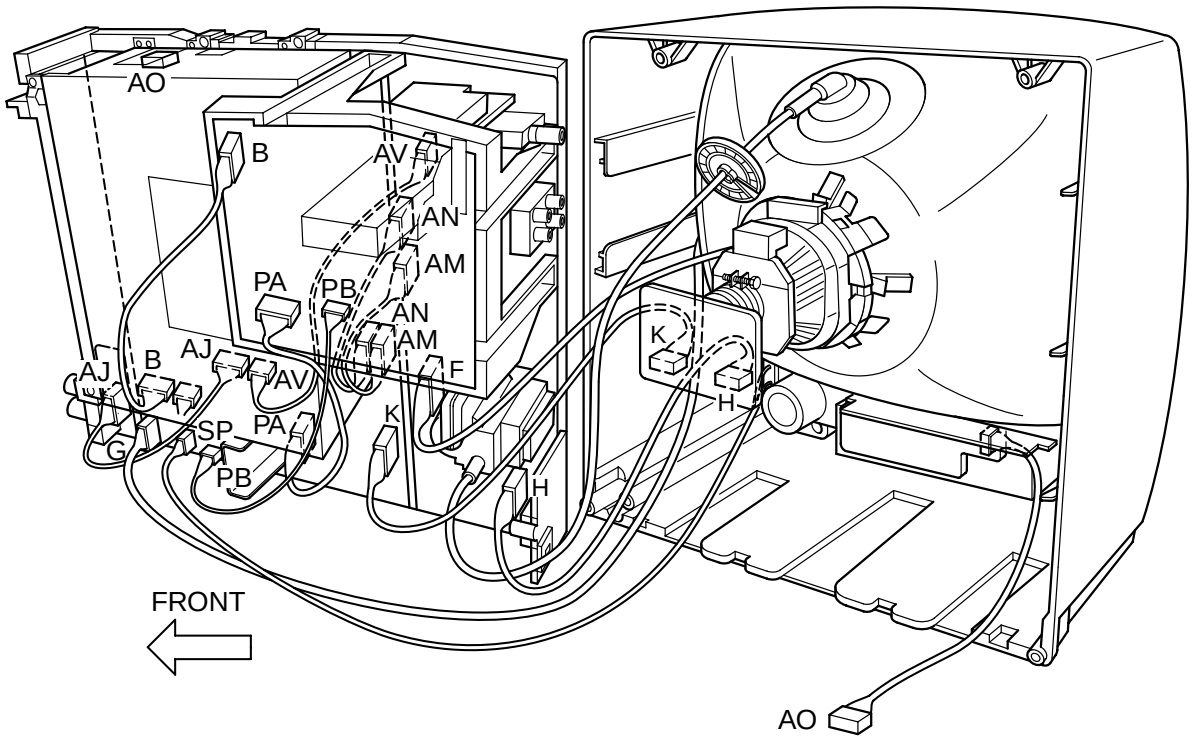




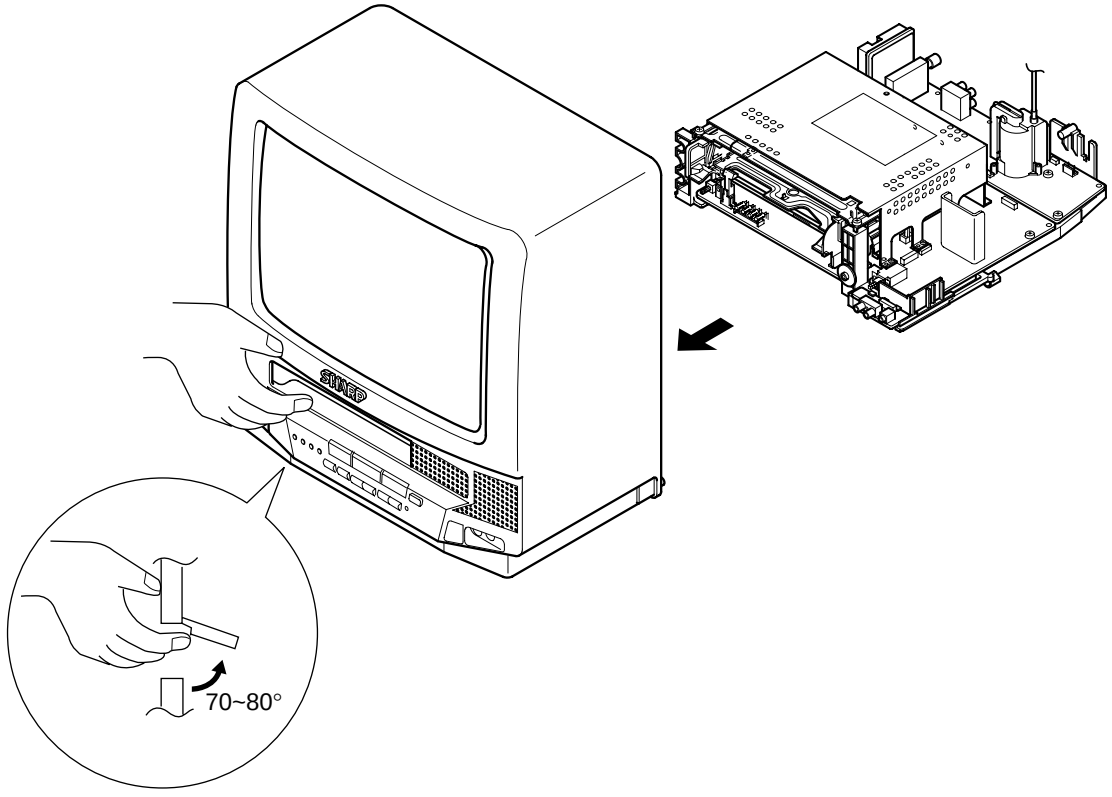


DISASSEMBLY AND REASSEMBLY (Continued)

For servicing any of the components inside, disconnect the lead dressing holder. Position the main PWB unit upright as shown below and connect the leads for starting the services.



Note: Fit the VCR unit the front cabinet with the front flap door tilted at 70~80°.



ADJUSTMENT OF THE TV ELECTRICAL CIRCUITRY

ADJUSTMENT PRECAUTIONS

1. Calling the service mode

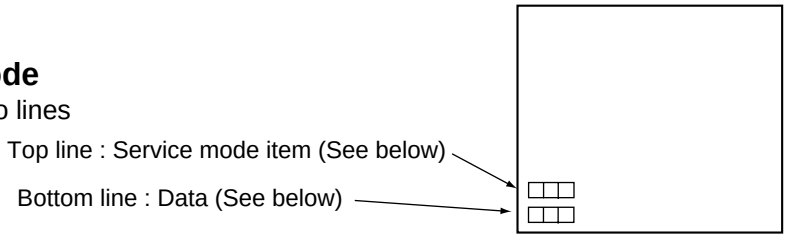
Get the service test points (TP1002 and TP1003) of the set short-circuited.

2. Getting out of the service mode

Get the above service test points open.

3. On-screen display in the service mode

A service mode item and its data appear in two lines at the lower left on the screen.



Service mode

Item	Display	Data	Variable range
DIRECT MODE	DIRCT	→	Adjustable in the DIRECT MODE
V-AMPLITUDE	V-AMP	0 ~ 127	R CUT OFF (0 ~ 255)
V-LINEARITY	V-LIN	0 ~ 31	G CUT OFF (0 ~ 255)
V-OUT PHASE	V-POS	0 ~ 7	B CUT OFF (0 ~ 255)
H-POSITION	H-POS	0 ~ 31	G DRIVE GAIN (0 ~ 255)
BELL FILTER	BELL	0 ~ 3	B DRIVE GAIN (0 ~ 255)
R-Y BLACK OFFSET	R-Y	0 ~ 15	
B-Y BLACK OFFSET	B-Y	0 ~ 15	
Y-SUB CONTRAST	CONT	0 ~ 31	
SUB COLOUR	COLOR	0 ~ 240	
SUB BRIGHT	BRI	0 ~ 150	
SUB TINT	TINT	0 ~ 37	
✳NICAM D/K	N-D/K	0 ~ 1	
✳IF INT/EXT	IF-IN	0 ~ 1	
✳AGC GAIN	AGCGA	0 ~ 31	
✳AGC OFF	AGCOF	0 ~ 1	
✳FM SOUND ID	FMID	0 ~ 3	
✳AUTO MUTE	AMUTE	0 ~ 1	
✳NICAM LOW ERROR LIMIT	NERRL	0 ~ 255	
✳NICAM UP ERROR LIMIT	NERRU	0 ~ 255	
✳NICAM OUT LEVEL B/G	B/G	0 ~ 31	
✳NICAM OUT LEVEL I	I	0 ~ 31	
✳NICAM OUT LEVEL D/K	D/K	0 ~ 31	
✳NICAM OUT LEVEL M	M	0 ~ 31	
✳FM OUTPUT LEVEL	FM	0 ~ 31	

Note :

1) **Item selectable by the CH ▲▼ buttons and data by the VOL ▲▼ buttons (effective on both the remote controller and the set)**
2) **✳This item is not used with the VT-G14 and VT-G21 (but displayed on the screen).**

The numeric keys on the remote controller work as follows in the DIRECT mode only.

	UP	DOWN
R CUT OFF	1	4
G CUT OFF	2	5
B CUT OFF	3	6
G DRIVE GAIN	7	⇄
B DRIVE GAIN	8	0

Notes :

In all the other modes, these buttons are used to select channels.

In the DIRECT TUNING mode, these buttons are used to enter data.

Item-by-item control in the service mode

1.	DIRECT mode	F-B/W	0 - > 1	(forced B/W)
2.	DIRECT mode + HOR. POS. mode	DRV CNT	0 - > 1	(drive forced center)
		SUB-BRIGHT	Initial value	
		R.G.B. CUTOFF	0 (E^2PROM data resumed when any of the “0” thru “9” buttons on the remote controller is pressed)	
3.	R-Y Black Offset	CONTRAST	MAX	(USER-CONTROL)
		BRIGHT	MAX	(USER-CONTROL)
		COLOUR	CENTER	(USER-CONTROL)
		R-MONITOR SW	0 - > 1	(MONITOR OUT)
		MUTE MODE	Y-MUTE	
4.	B-Y Black Offset	CONTRAST	MAX	(USER-CONTROL)
		BRIGHT	MAX	(USER-CONTROL)
		COLOUR	CENTER	(USER-CONTROL)
		B-MONITOR SW	0 - > 1	(MONITOR OUT)
		MUTE MODE	Y-MUTE	
5.	SUB Tint	MUTE MODE	Y-MUTE	
6.	Unspecified items	PICTURE	NORMAL	(CONT. BRI. COL.)

Note :

All the settings will be back to the initial ones when shifting into any other mode or getting out of the service mode.

Allocation of special buttons in the service mode

✳HORIZONTAL POSITION	CONFIRM (SET -> S-PICTURE)
✳Y-MUTE	SET
✳COLOUR MAX./MIN. select	TIMER ON/OFF
✳DIRECT TUNING MODE	RETURN
✳VCR SLOW TEST	PROG
✳NVM MODE	DISPLAY

Adjustment precautions

1) Basically follow the sequential order of adjustments.
   (Unless otherwise specified, follow the adjustment procedures.)
2) The “✳”-marked steps in the adjustment procedures are automatically taken when in the service mode. Leave out these steps.
3) For adjustments in the service mode, it is necessary to have the remote controller at hand.

Trouble indicators

If the set is interrupted by the protectors, the following indicators work to identify a spot in trouble.

1) ⏻/I LED (red) flashing : Deflection system protector activated (high-voltage or beam protector)
2) REC LED flashing : I²C bus line error (VCJ or tuner, EEPROM)
3) LED off : Power protector activated (+B line short-circuited)

Initial settings of EEPROM data

Initial settings of adjustment items

Item	Variable range	Initial setting
R CUT OFF	0 ~ 255	0
G CUT OFF	0 ~ 255	0
B CUT OFF	0 ~ 255	0
V-AMPLITUDE 50Hz	0 ~ 127	35
V-AMPLITUDE 60Hz	0 ~ 127	37
V-LINEARITY 50Hz	0 ~ 31	25
V-LINEARITY 60Hz	0 ~ 31	18
V-OUT PHASE 50Hz	0 ~ 7	06
V-OUT PHASE 60Hz	0 ~ 7	03
HORIZONTAL POSITION 50Hz	0 ~ 31	08
HORIZONTAL POSITION 60HZ	0 ~ 31	12
Y-SUB CONTRAST	0 ~ 31	0
SUB-COLOUR	0 ~ 240	91
SUB-BRIGHT	0 ~ 150	100
G-DRIVE GAIN	0 ~ 255	128
B-DRIVE GAIN	0 ~ 255	128
SUB-TINT	0 ~ 37	18
BELL FO	0 ~ 3	01
R-Y BLACK OFFSET	0 ~ 15	8
B-Y BLACK OFFSET	0 ~ 15	8

PICTURE Adjust User setting
Initial setting : NORMAL (CONTRAST at MAX, others at CENTER)

Factory settings

Model number	In-house product code	Sound system	On-screen display language	Geomagnetism adjustment		Background		
				V	H		x	y
VT-G14	A3HEG14VJ	D/K	Russian	45,000nT(0.45G)	20,000nT(0.20G)	7,500°K	0.300	0.310
VT-G21	A3HEG21VJ	D/K	Russian	45,000nT(0.45G)	20,000nT(0.20G)	7500K	0.300	0.310

SERVICE ADJUSTMENT

■ PIF/AFT/AGC ADJUSTMENT

1. TUNER IFT : TU201 (preset)

1. Get the tuner ready to receive the E-9CH signal, but with no signal input. Adjust the PLL data.
2. Connect the sweep generator's output cable to the tuner antenna. (RF sweep)
3. Adjust the sweep generator's output level to 80 dBμV.
4. Connect the response lead (use a low-impedance probe with wave detector; see ***Fig.1***) to the tuner's IF output terminal.
   (This terminal must have the probe alone connected.)
5. Set the RF AGC voltage to 0V ~ 6V with no contact with the waveform.
6. Adjust the tuner IF coil to obtain the waveform as shown in ***Fig. 2***.

Note : Be sure to keep the tuner cover in position during this adjustment.

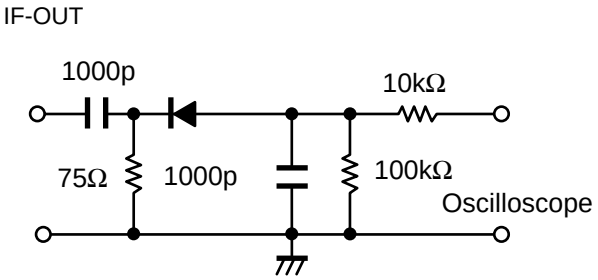


Fig. 1

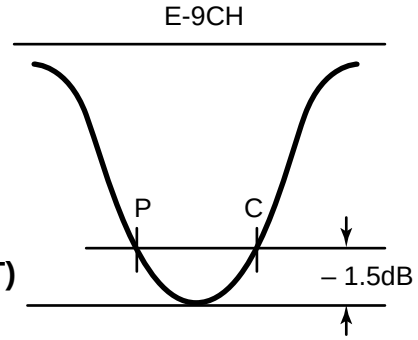


Fig. 2

2. VCO and AFT ADJUSTMENT : T253 (VCO), T254 (AFT)

1. VCO coil (T253)
   1) Disconnect the antenna from the tuner antenna terminal.
   2) Apply DC voltage to pin (4) (IF AGC, TP252) of IC251.
      - DC voltage: 6.0 ± 0.1 V
   3) Using a digital voltmeter, measure the DC voltage at pin (20) (PLL FIL, TP253) of IC201.
      - (The digital voltmeter must be able to take readings down to the third decimal place.) 10 kHz at 0.007 V
   4) Relieve TP252 of the DC voltage.
   5) Reconnect the antenna in position and receive the E-12CH signal.
      - (With the AFT off, adjust the receiving frequency to 224.25 MHz.)
   6) Connect the DC digital voltmeter to TP253. Adjust T253 so that the voltmeter should read the same voltage as in Step 3).
      - Allowable error: 0.015 V (20 kHz)
2. AFT coil (T254)
   1) Receive the E-12CH signal in the same condition as in Step 5) above.
   2) Connect the oscilloscope to pin (1) (AFT, TP251) of IC251.
   3) Adjust T254 so that the DC voltage reading be 3.3 V.
      - 3.3 ± 0.1 V (from the 0-6.6 V variable range)

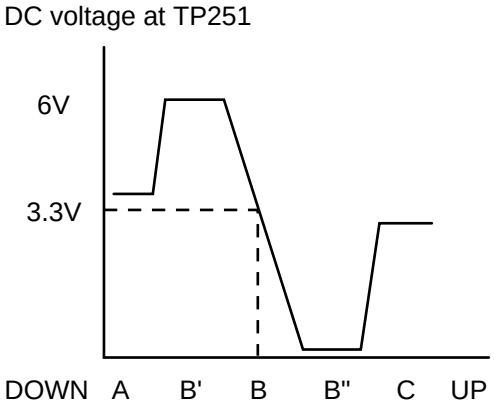


Fig. 3

■ PIF/AFT/AGC ADJUSTMENT(Continued)

3. RF AGC CUT-IN ADJUSTMENT: R265

1. Receive the “E-12CH” (PAL COLOUR BAR) signal.
   - Field strength: 57 ± 1 dBμV (75 ohms open)
2. Connect the oscilloscope to TP201, as shown at right.
3. Turn R265 to have the highest voltage.
4. Turn R265 slowly in the opposite direction until the voltage goes down 0.1 V below the highest level.
5. Adjust the signal level to 63 ~ 67 dBμV and make sure there is no noise.
6. Now adjust the signal level to 90 ~ 95 dBμV and make sure there is no chrominance modulation beat.

Note : If a 50 ohm field strength meter is used without a 50/75 impedance converter, set the field strength to 55 ±1 dBμV. Pay attention to a loss that would be caused with the converter.

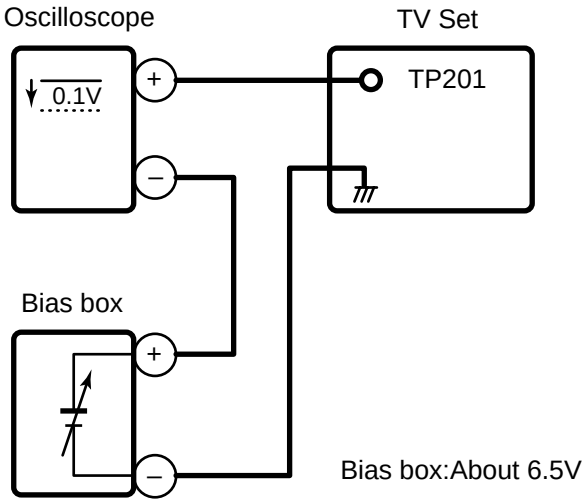


Fig. 4

■ PURITY ADJUSTMENT

1. PURITY ADJUSTMENT

1. First of all, let a beam current of over 700μA flow in the set to warm it up for 30 minutes or longer. (over 400 μA for VT-G14).
2. Keep the purity magnet in the zero magnetic field in advance. Roughly adjust the static convergence.
3. Receive the green-only colour signal. Adjust the beam current to about 770 μA. (about 500 μA for VT-G14)
4. Degauss the cathode ray tube enough with the degaussing coil.

ADJUSTMENT

Eastward magnetic field specified

1) Observe the beam landings “a” and “b”, as shown in ***Fig. A***, through a microscope. Adjust the landings as specified.
2) If the right and left landings are equally outward as shown in ***Fig. B***, move the deflection yoke forward.
3) If the right or left landing is shifted to the right or to the left, as shown in ***Fig. C*** and ***Fig. D***, adjust the opening angle of the purity magnet.
4) Make sure the right and left beam landings are just as specified about the screen center. Now check the cathode ray tube corners.
   Be sure that all the landings are at rank “B”.
5) If any other colour appears on the screen, move the deflection yoke back and forth.

LANDING ERROR

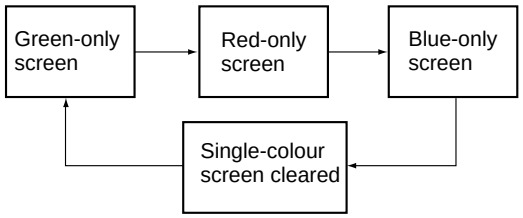
- Outward: Move the deflection yoke forward.
- Inward: Move the deflection yoke backward.

6) Receive the monoscope pattern signal.

RASTER ROTATION

7) Adjust the raster rotation to “0” eastward.
   - Adjustment error : 0 ±2 mm
8) Tighten up the deflection coil screws.
   - Tightening torque : 11±2 kg

Note : Each time the single-colour button is pressed, the screen colour changes as follows.



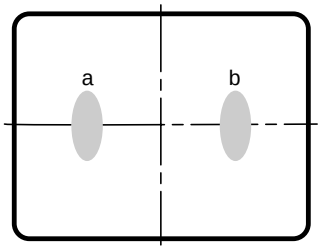
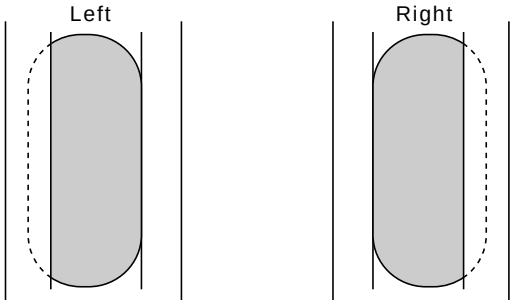
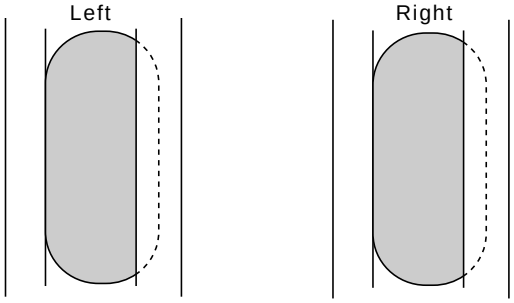


Fig. A



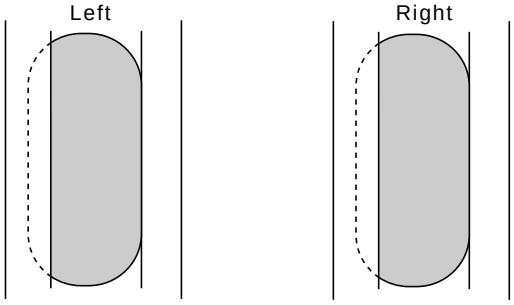
Beam landing equally outwards.

Fig. B



Beam landing shifted to right.

Fig. C



Beam landing shifted to the left.

Fig. D

■ CONVERGENCE ADJUSTMENT

1.CONVERGENCE ADJUSTMENT

(to be done after the purity adjustment)

1. Receive the crosshatch pattern signal.
2. Using the remote controller, call the Normal mode.

STATIC CONVERGENCE

1. Turn the 4-pole magnet to a proper opening angle in order to superimpose the blue and red colours.
2. Turn the 6-pole magnet to a proper opening angle in order to superimpose the green colour over the blue and red colours.

DYNAMIC CONVERGENCE

1. Adjust the convergence on the fringes of the screen in the following steps.
   - **Fig. a : Drive the wedge at point “a” and swing the deflection coil upward.**
   - **Fig. b : Drive the wedges at points “b” and “c” and swing the deflection coil downward.**
   - **Fig. c : Drive the “c” wedge deeper and swing the deflection coil rightward.**
   - **Fig. d : Drive the “d” wedge deeper and swing the deflection coil leftward.**
2. Fix all the wedges on the cathode ray tube and apply glass tape over them.
3. Apply lacquer to the deflection yoke lock screw, magnet unit (purity, 4-pole and 6-pole magnets), and magnet unit lock screw.

Finally receive the red-only and blue-only colour signals and make sure there is no other colour mixed on the screen.

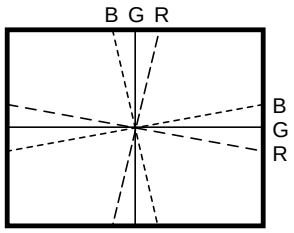


Fig. a

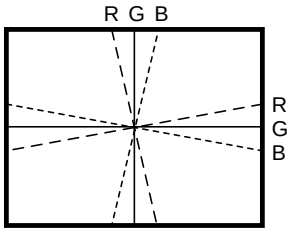


Fig. b

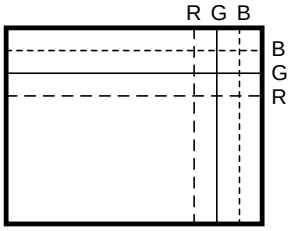


Fig. c

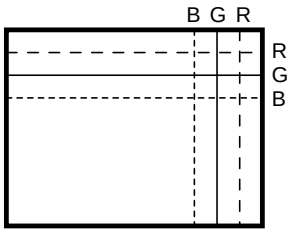
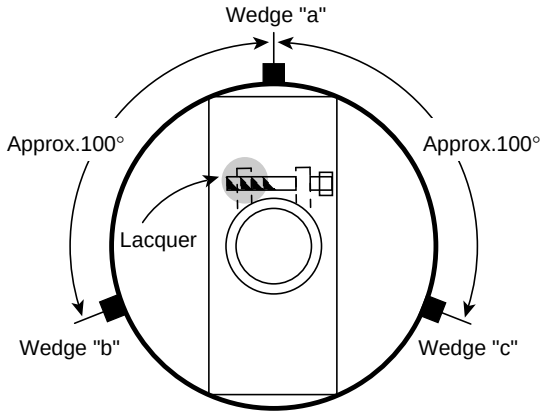


Fig. d



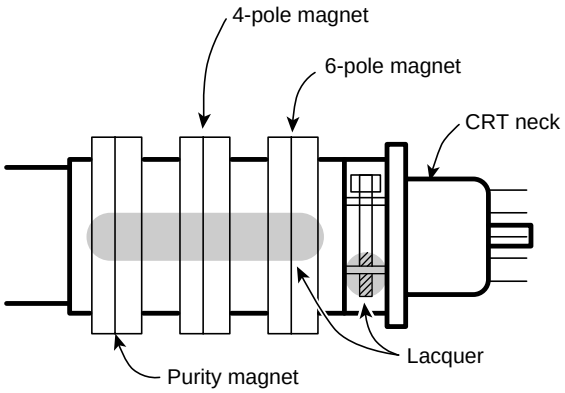


Fig. 5

■ CRT CUT-OFF, BACKGROUND AND SUB-CONTRAST ADJUSTMENT (1)

1.CRT CUT-OFF (I^2C bus data adjustment)

1. Receive the monoscope pattern signal.
2. Put the set in the service mode and call up the DIRECT mode (DIRCT).
3. Set the screen control to 0/10 position.
4. Press the “CONFIRM” button on the remote controller to reach the horizontal centering mode. (S-PICTURE button on the set)
5. Turn the screen control clockwise until the horizontal raster of the first glimmering colour becomes slightly visible.
6. Adjust the cut-off data of the other two colours until the horizontal raster becomes whitish.

Note : The data can be turned up and down with the above buttons.

- R CUT OFF UP “1” BUTTON
- R CUT OFF DOWN “4” BUTTON
- G CUT OFF UP “2” BUTTON
- G CUT OFF DOWN “5” BUTTON
- B CUT OFF UP “3” BUTTON
- B CUT OFF DOWN “6” BUTTON

7. Turn the screen control counterclockwise until the horizontal raster disappears.

Note : Before starting this adjustment, warm up the unit for 30 minutes or longer at a beam current of over 700 μA (over 600 μA for VT-G14).

8. Press the “CONFIRM” button on the remote controller to call up the NORMAL mode. (S-PICTURE button on the set)

SUB-BRIGHTNESS (I^2C bus data adjustment)

9. Using the remote controller, call the SUB-BRIGHT setting mode (BRI). (Receive the crosshatch and gray scale signal.)
10. Set the sub-brightness data so that the third black portion (1st to 5th counted from the left of the screen) of the window pattern looks sinking.

Note : The service mode adjustment in the above steps 9. and 10. should be carried out after the white balance and background adjustments.

11. Exit from the service mode.

2. WHITE BALANCE AND BACKGROUND (I^2C bus data adjustment)

1. Receive the monoscope pattern signal.
2. Put the set in the service mode and call up the DIRECT mode (DIRCT).
3. Connect the beam ammeter between TP601 and TP602.
4. Using the sub-contrast control, roughly adjust the beam current to about 1,000 μA (about 700 μA for VT-G14).
5. Adjust the G-drive and B-drive data to have a colour temperature of 7,500°K (white).
   - 7,500°K x : 0.300
     y : 0.310
     (with a Minolta colour temperature meter CA-100)

Note : The data can be turned up and down with the above buttons.

- G-DRIVE UP “7” BUTTON
- G-DRIVE DOWN “⇆” BUTTON
- B-DRIVE UP “8” BUTTON
- B-DRIVE DOWN “0” BUTTON

6. Adjust the contrast and brightness controls to have the beam current of 200 μA or so. Now check the background colour. If the colour temperature is not as specified, go back to No. 1 on the preceding page.
7. Exit from the service mode.

Note : Before starting this adjustment, warm up the unit for 30 minutes or longer at a beam current of over 700 μA (over 600 μA for VT-G14).

■ CRT CUT-OFF, BACKGROUND AND SUB-CONTRAST ADJUSTMENT (2)

3. SUB-CONTRAST
(I²C bus data adjustment)

1. Receive the crosshatch pattern signal.
2. Put the set in the service mode and select the SUB-CONTRAST mode (CONT).
3. Adjust the sub-contrast data to "10" (VT-G21)/ "0" (VT-G14).
4. Exit from the service mode.

■ HORIZONTAL AND VERTICAL CIRCUIT ADJUSTMENT

1. SERVICE MODE DATA ADJUSTMENT

Put the set in the service mode.
Turn up or down the data for this adjustment.

I²C bus data adjustment

- **V-AMP 50 Hz**

A) Select the V-AMP mode (V-AMP). Adjust the overscan to 10% .

- **V-LINEARITY 50 Hz**

B) Select the V-LIN mode (V-LIN). Adjust to get the best linearity.

- **V-OUT PHASE 50 Hz (V-CENTER)**

C) Select the V-OUT POS mode (V-POS). Align the screen center with the cathode ray tube's geometrical center.

- **H-POS 50 Hz (H-CENTER)**

D) Select the H-POS mode (H-POS). Make the distances "A" and "B" on both sides equal.

Exit from the service mode.

Note :
The selected channels in parentheses have the following signals.

Monoscope pattern (50 Hz) signal

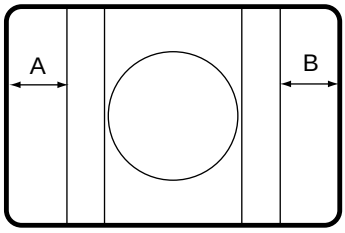


Fig.6

For the V-AMP 60 Hz, V-LINEARITY 60 Hz, V-OUT PHASE 60 Hz, and H-POS 60 Hz adjustments, their corrected data are automatically entered when the corresponding 50 Hz mode adjustments are made. Check these data on the 60 Hz mode screen. Readjust any of them if required. (The 50 Hz and 60 Hz modes are selected on the screen.)
Once the adjustment has been made in the 60 Hz mode, do not change it in the 50 Hz mode.

2. FOCUS ADJUSTMENT

1. Receive the monoscope pattern signal.
2. Make the PICTURE ADJUST setting to NORMAL.
3. Adjust the focus control so that the middle areas between the pattern's center and the screen's both ends be in the best focus.

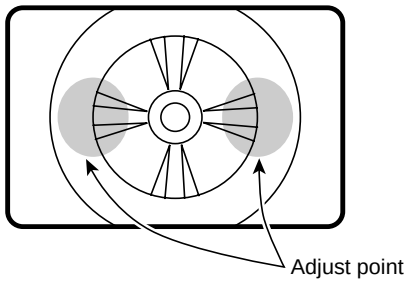


Fig.7

■ PAL CHROMA ADJUSTMENT

1. SUB-COLOUR ADJUSTMENT (I²C bus data adjustment)

1. Receive the PAL colour bar signal.
2. Put the set in the service mode.
3. Select the sub-colour mode (COL).
4. Connect the oscilloscope to TP855 (RED cathode). (Use a 10 : 1 probe.) (TP852 for VT-G14)
   - Range: 20 V/div.
   - Sweep time: 20 µsec/div.
5. Adjust the sub-colour data so that the 75% white and red portions of the PAL colour bar be at the same level. See ***Fig. 8***.
6. Exit from the service mode.
   - When getting out of the SUB-COLOUR mode, the sub-colour data turns up 15.

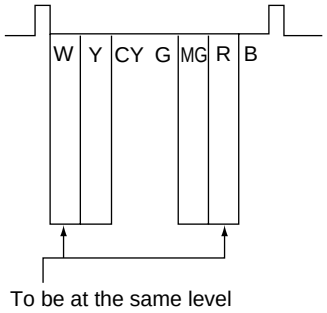


Fig.8

■ NTSC CHROMA ADJUSTMENT

1. SUB-TINT ADJUSTMENT (I²C bus data adjustment)

1. Receive the NTSC colour bar signal.
2. Put the set in the service mode.
3. Select the SUB-TINT mode (TINT).
4. Connect the oscilloscope to TP802 (B-Y OUT).
   - Range : 10 mV/div. (AC)
   - Sweep time : 10 µsec/div. (Use a 10 : 1 probe.)
5. Adjust the sub-tint data to obtain the waveform as shown in ***Fig. 9***.
6. Exit from the service mode.

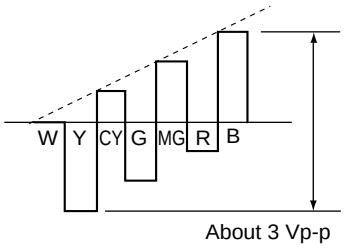


Fig.9

■ SECAM CHROMA ADJUSTMENT

1. BELL FILTER (*f*0) (I²C bus data adjustment) (adjustment not required)

1. Receive the SECAM colour bar signal.
2. Put the set in the service mode.
3. Select the BELL FILTER (f0) mode (BELL).
4. Adjust the data to 1.
5. Exit from the service mode.

■ SECAM CHROMA ADJUSTMENT(Continued)

2. SECAM BLACK LEVEL (R-Y/B-Y) and BLACK OFFSET ADJUSTMENT (I^2C bus data adjustment)

1. Receive the SECAM colour bar signal.
2. Call the service mode.
3. Select the R-Y black offset mode (R-Y).
4. Connect the oscilloscope to pin (36) (B-Y OUT, TP802) of IC801.
   - Range : 10 mV/div.
   - Sweep time : 5 µsec/div. (Use a 10 : 1 probe.)
5. Vary the data so that the back porch and the white level should become at the same level. See ***Fig. 10***.
6. Select the B-Y black offset mode (B-Y).
7. Reconnect the oscilloscope to pin (35) (B-Y OUT, TP801) of IC801. Keep the same conditions as in Step 4. above.
8. Vary the data so that the back porch and the white level should become at the same level. See ***Fig. 11***.
9. Quit the service mode.
10. Finally adjust the colour control to the MAX and MIN positions to make sure there is no change in the background.

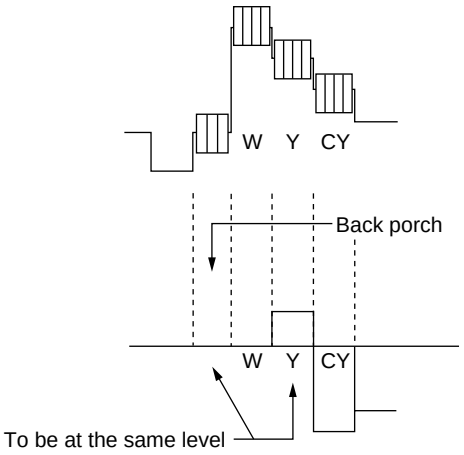


Fig.10

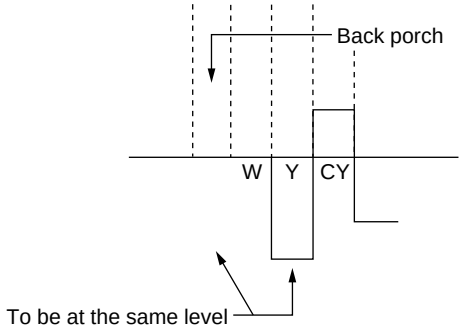
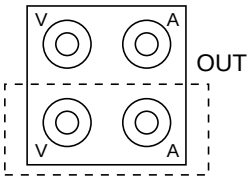


Fig.11

■ A/V INPUT AND OUTPUT CHECK

1. VIDEO and AUDIO OUTPUT CHECK

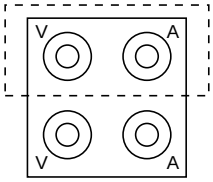
1. Receive the PAL colour bar signal.
   (100% white colour bar, 400 Hz, 100% modulation audio)
2. Terminate the video output with a 75Ω impedance. Make sure the output is as specified
   (1.0 Vp-p ± 3 dB).
3. Terminate the audio output with a 10k ohm impedance. Make sure the output is as specified
   (2.6 Vp-p ± 3 dB).
   - Be sure that the audio output corresponds to the video output on the screen.



J401 (Rear) - - - AV1

2. VIDEO and AUDIO INPUT CHECK

1. Receive the PAL colour bar.
2. Feed the video and audio signal via the A/V input jacks.
3. Using the CH ▲/▼ buttons on the remote controller, change to the AV mode and make sure the external video and audio outputs are accordingly given.
   (The AV mode can be picked up between 1CH and 0CH.)
   CH ▲ 99 → 0 → AV1 → AV2 → 1 → 2
   CH ▼ 2 → 1 → AV2 → AV1 → 0 → 99
   - The AV mode may also be picked up using the TV/VIDEO button on the remote controller.



J401(Rear) - - - AV1
J1401(Front) - - AV2

■ PROTECTOR PERFORMANCE CHECK

1. BEAM PROTECTOR

1. Receive the monoscope pattern signal.
2. Set the contrast control to maximum.
3. Set the brightness control to maximum.
4. Make a short-circuit between the collector and emitter of Q1801 and make sure that the protector is activated and the stand-by mode is called. (The POWER LED indicator starts flashing in red.)

2. HIGH-VOLTAGE PROTECTOR

1. Receive the monoscope pattern signal.
2. Connect the bias box to TP603.
3. Adjust the bias box voltage to 20 V and make sure that the protector is not activated.

Note : Normally about 19 V

4. Adjust the bias box voltage to 25 V and make sure that the protector is activated.

3. OTHER PROTECTORS

- In checking the performance of other protectors — for example, the one against shorting of smoothing electrolytic capacitor of +B line —, pay attention not to damage or deteriorate any related element.

■ FUNCTION CHECK (1) (VIDEO AND AUDIO)

1. CONTRAST

1. Receive the mono scope pattern signal.
2. Using the PICTURE ADJUST control, select CONTRAST.
3. The contrast must be changeable with the +/- button.

R/C
MENU BUTTON
→PICTURE ADJUST
→CONTRAST
→COLOUR
→BRIGHT
→TINT
→SHARPNESS
→NORMAL

2. COLOUR

1. Receive the PAL colour bar signal.
2. Using the PICTURE ADJUST control, select COLOUR.
3. The colour must be changeable with the +/- button.
   (There must be no colour at the MIN position.)

3. BRIGHTNESS

1. Receive the monoscope pattern signal.
2. Using the PICTURE ADJUST control, select BRIGHT.
3. The black level must be changeable with the +/- button.

4. TINT

1. Receive the NTSC colour bar signal.
2. Using the PICTURE ADJUST control, select TINT.
3. The tint must be changeable toward green with the + button and toward red with the - button.

5. PIC-NORMAL

1. With the PICTURE ADJUST control, select NORMAL. Make sure the following normal settings are displayed. Here are the normal settings.
   - Contrast : MAX (60)
   - Colour : CENTER (0)
   - Brightness : CENTER (0)
   - Tint : CENTER (0)
   - Sharpness : CENTER (0)

6. SHARPNESS

1. Receive the monoscope pattern signal.
2. Using the PICTURE ADJUST control, select SHARPNESS.
3. The sharpness must be changeable with the +/- button.

7. CHANNEL SIGN DISPLAY COLOUR

1. The display colour of all the channel (0 ~ 99) signs must be green (AFT on).

■ FUNCTION CHECK (2) (VIDEO AND AUDIO)

8. COLOUR SYSTEM

1. Receive the PAL colour bar signal. Using the COLOUR SYSTEM button, select a mode other than AUTO/PAL and make sure the colour system does not work properly.
2. Receive the SECAM colour bar signal. Using the COLOUR SYSTEM button, select a mode other than AUTO/SECAM and make sure the colour system does not work properly.
3. Receive the NTSC 4.43 colour bar signal. Using the COLOUR SYSTEM button, select a mode other than N4.43 and make sure the colour system does not work properly.
4. Receive the NTSC 3.58 colour bar signal. Using the COLOUR SYSTEM button, select a mode other than AUTO/N3.58 and make sure the colour system does not work properly.

9. SOUND SYSTEM

1. Receive the sound system D/K signal. Using the SOUND SYSTEM button, select M, B/G and I modes and make sure the sound system does not work properly.
2. Receive the sound system I signal. Using the SOUND SYSTEM button, select M, B/G and D/K modes and make sure the sound system does not work properly.
3. Receive the sound system B/G signal. Using the SOUND SYSTEM button, select M, I and D/K modes and make sure the sound system does not work properly.
4. Receive the sound system M signal. Using the SOUND SYSTEM button, select B/G, I and D/K modes and make sure the sound system does not work properly.

Note : When the NTSC 4.43 colour bar special signal is used in the AUTO mode, the colour system does not work. (Check in the forced mode.)

R/C

MENU BUTTON

→SYSTEM

→COLOUR SYSTEM

→SOUND SYSTEM

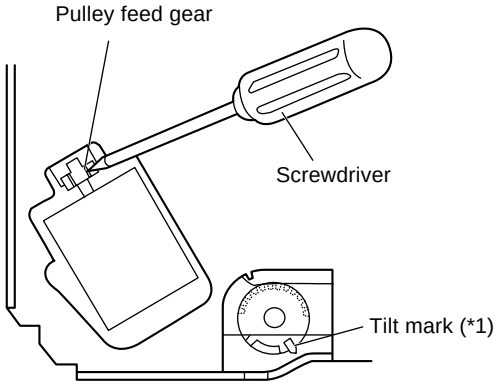
PRECAUTIONS IN REASSEMBLING

INSTALLING THE CASSETTE CONTROLLER

When the cassette controller is installed on the mechanism, the initial setting is essential condition.
There are two initial setting methods, namely electrical and mechanical.

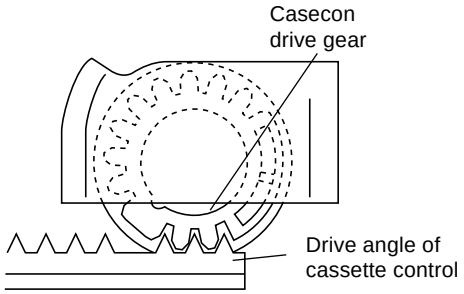
1. Electrical initial setting

Make a short-circuit between TP7701 and TP7702 then plug in the AC cord and be sure that the mechanism is back to its initial setting position (*1). Now install the cassette controller in position. (Conditions: When mechanism and PWB have been installed)



2. Mechanical initial setting

Feed the pulley feed gear of loading motor with screw driver. After ascertaining the return to the initial set position (*1) install the cassette controller in the specified position. (This method is applied only for the mechanism.)

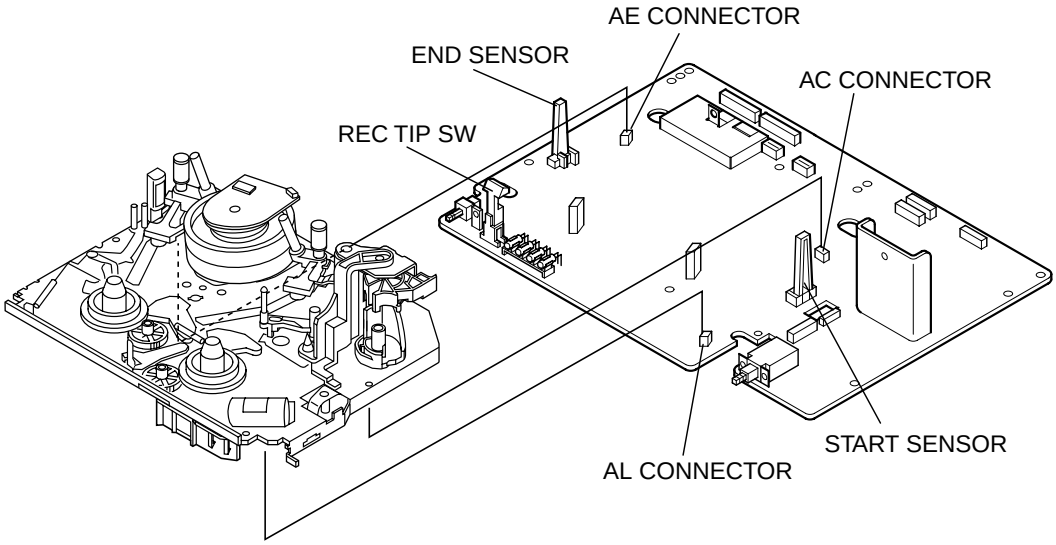


INSTALLING THE MECHANISM ON PWB

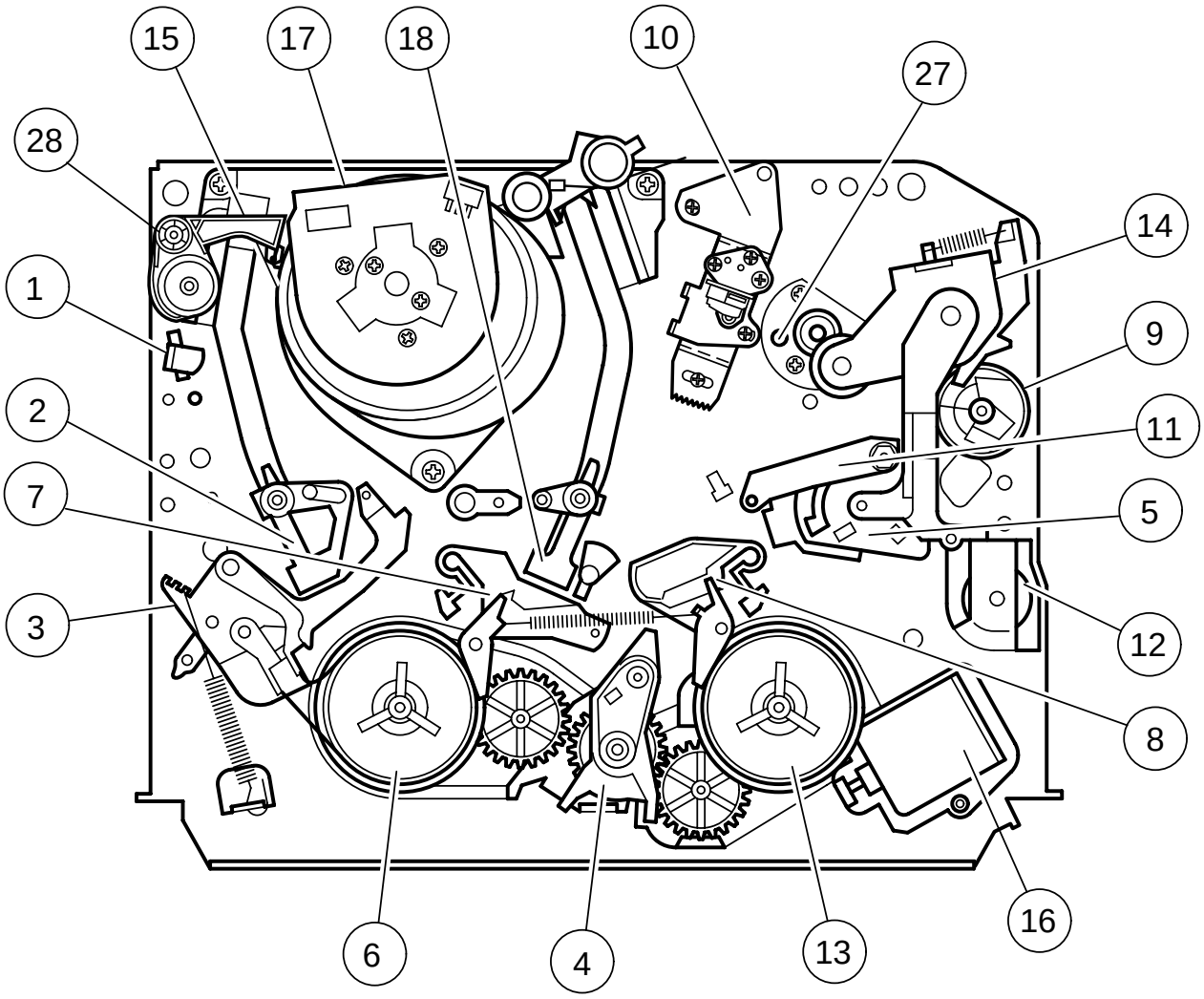
Lower vertically the mechanism, paying attention to the mechanism edge, and install the mechanism with due care so that the parts are not damaged. So as to fix the mechanism to the main PWB tighten up the two screws. (One for fixing the mechanism and the head amplifier shield, the other on the main PWB's soldering side and located near the loading motor.) Connect again the FFC cable (AA-MH, AD-ME, AH-MZ) between the mechanism and the main PWB.

PARTS WHICH NEED PARTICULAR CARE

When installing the mechanism chassis on the PWB unit, take care so as to prevent deformation due to contact of mechanism chassis with Rec tip switch (S7701), Start sensor (Q7703) and End sensor (Q7704).

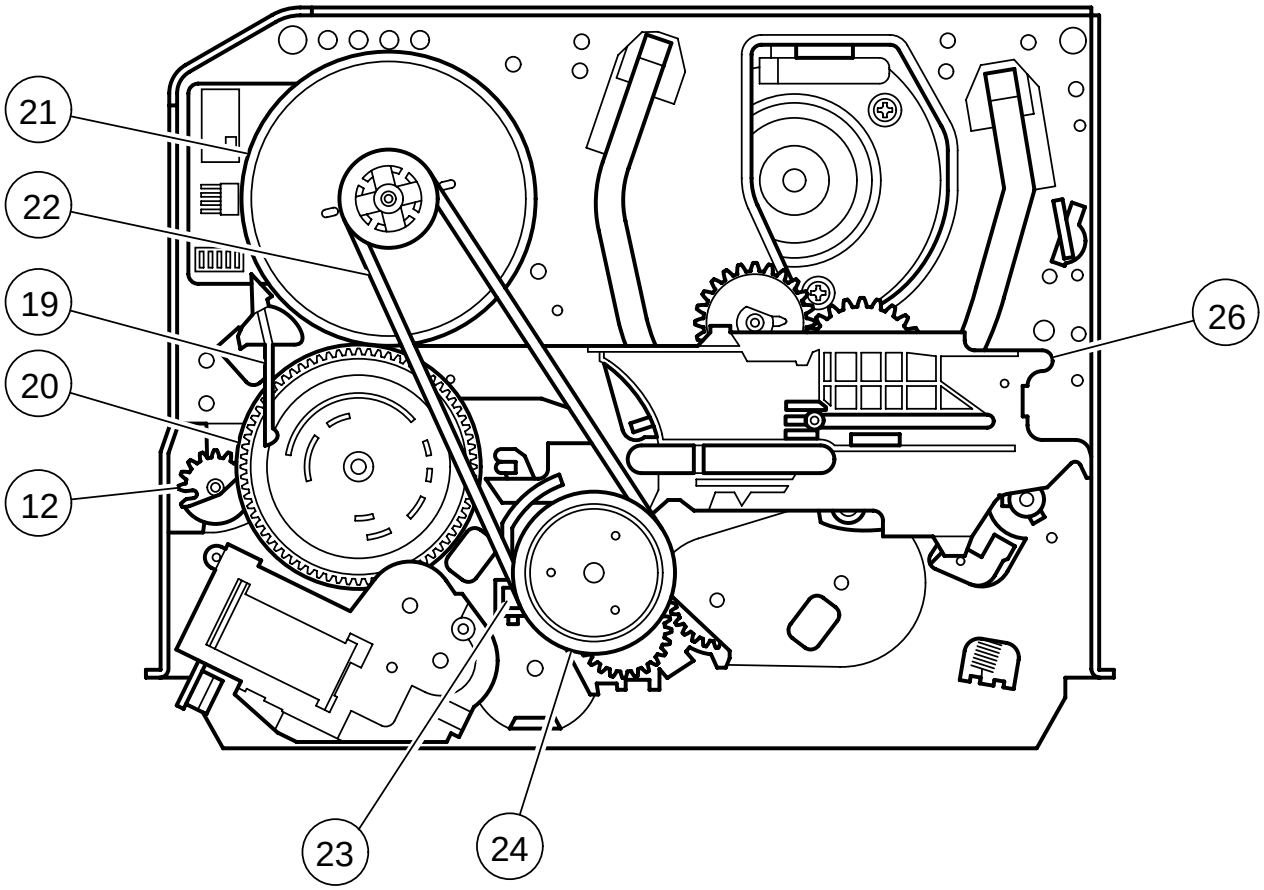


FUNCTION OF MAJOR MECHANICAL PARTS (TOP VIEW)



No.	Function	No.	Function
1	Full erase head	11	Reverse guide lever ass'y
2	Supply pole base ass'y	12	Casecon drive gear
3	Tension arm ass'y	13	Take-up reel disk
4	Idler wheel ass'y	14	Pinch roller lever ass'y
5	Pinch drive lever ass'y	15	Drum ass'y
6	Supply reel disk	16	Loading motor
7	Supply main brake ass'y	17	Drum motor
8	Take-up main brake ass'y	18	Take-up pole base ass'y
9	Pinch drive cam	27	Fixing guide
10	A/C Head ass'y	28	Impedance roller ass'y (VT-G21)

FUNCTION OF MAJOR MECHANICAL PARTS (BOTTOM VIEW)



No.	Function	No.	Function
19	Slow brake	23	Clutch lever
20	Master cam	24	Limiter pulley ass'y
21	Capstan D.D. motor	(12)	Casecon drive gear
22	Reel belt	26	Shifter

ADJUSTMENT, REPLACEMENT AND ASSEMBLY OF MECHANICAL UNITS

The explanation given below relates to the on-site general service (field service) but it does not relates to the adjustment and replacement which need high-grade equipment, jigs and skill. For example, the drum assembling, replacement and adjustment service must be performed by the person who have finished the technical courses.

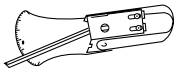
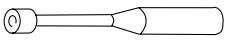
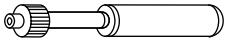
Note :

There is a function to cut off the high voltage of TV by taking the plug of P1003 off the socket SC1003 in Main PWB in order to check only VCR part including mechanism.

So you can use this function in the case of checking and adjusting mechanism.

MECHANISM CONFIRMATION ADJUSTMENT JIG

So as to perform completely the mechanism adjustment prepare the following special jigs. So as to maintain the initial performance of the machine the maintenance and check are necessary. Utmost care must be taken so that the tape is not damaged. If adjustment needs any jig, be sure to sue the required jig.

No.	Jig Item	Part No.	Code	Configuration	Remarks
1.	Torque Cassette Meter	JiGVHT-063	CZ		This cassette torque meter is used for checking and adjusting the torque of take-up for measuring tape back tension.
2.	Torque Gauge	JiGTG0090	CM		These Jigs are used for checking and adjusting the torque of take-up and supply reel disks.
		JiGTG1200	CN		
3.	Torque Gauge Head	JiGTH0006	AW		
4.	Torque Driver	JiGTD1200	CB		When fixing any part to the threaded hole using resin with screw, use the jig. (Specified torque 5 kg)
5.	Master Plane Jig and Reel Disk Height Adjusting Jig	JiGRH0002	BR		These Jigs are used for checking and adjusting the reel disk height.
		JiGMP0001	BY		
6.	Tension Gauge	JiGSG2000	BS		There are two gauges used for the tension measurements, 300 g and 2.0 kg.
		JiGSG0300	BF		
7.	Pinch pressing force measuring jig	JiGADP003	BK		This Jig is used with the tension gauge. Rotary transformer clearance adjusting jig.
8.	Reverse guide height adjusting box driver	JiGDRiVER11055	AR		This Jig is used for height adjustment of the reverse guide (for reverse guide height adjustment).
9.	Alignment Tape	VROUBZFS — — — — — — VROCPSV	CK		Video: 625 Monoscope / 625 Monoscope and Color Bar Audio: 6kHz / 6kHz and 1kHz Track: 35µm / 49µm
10.	Guide roller height adjustment drive	JiGDRiVERH-4	AP		This screwdriver is used for adjusting the guide roller height.
11.	X value adjustment gear type screw driver	JiGDRiVER-6	BM		For X value adjustment
12.	Reverse Guide Height Adjusting Jig	JiGRVGH-F18	BU		This Jig is used for height adjustment of the reverse guide.

MAINTENANCE CHECK ITEMS AND EXECUTION TIME

Perform the maintenance with the regular intervals as follows so as to maintain the quality of machine.

Parts \ Maintained	500 hrs.	1000 hrs.	1500 hrs.	2000 hrs.	Possible symptom encountered	Remarks
Guide Roller Ass'y	□	□	□	□	Lateral noises Head occasionally blocked	Abnormal rotation or significant vibration requires replacement.
Sup Guide Shaft	□	□	□	□		Clean tape contact part with the specified cleaning liquid.
Retaining Guide	□	□	□	□		
Slant Pole on Pole Base	□	□	□	□		
Full-erase Head	□	□	□	□	Colour and beating	Clean tape contact area with the specified cleaning liquid.
A/C Head	□	□	□	□	Small sound or sound distortion	
Upper and Lower Drum Ass'y	□	○□	○□	○□	Poor S/N ratio, no colour Poor flatness of the envelope with alignment tape	
Capstan D.D. Motor	□	□	□	□	No tape running, uneven colour	
Pinch Roller	□	□	□	□	No tape running, tape slack	Clean rubber and rubber contact area with the specified cleaning liquid.
Reel Belt		□		○	No tape running, tape slack, no fast forward/ rewind motion	
Tension Band Ass'y				○	Screen swaying	
Loading Motor				○	Cassette not loaded or unloaded	
Idler Ass'y				○	No tape running, tape slack	
Limiter Pulley		□△		□○		
Supply/Take-up Main Brake Levers				○	Tape slack	
AHC (Automatic Head Cleaner)		○		○		Replace the roller of the cleaner when it wears down. Just change the AHC roller assembly for new one.

NOTE: ○: Part replacement. □ : Cleaning △ : Apply grease
<Specified> Cleaning liquid: Industrial ethyl alcohol

* This mechanism does not need electric adjustment . Check parts. If any deviation is found, clean or replace parts.

REMOVING AND INSTALLING THE CASSETTE HOUSING

- **Removal**

1. In the cassette eject mode remove the cassette.
2. Unplug the power cord.
3. Remove in the following numerical order.
   a) Remove two screws ①.
   b) Slide and pull up the cassette housing control.

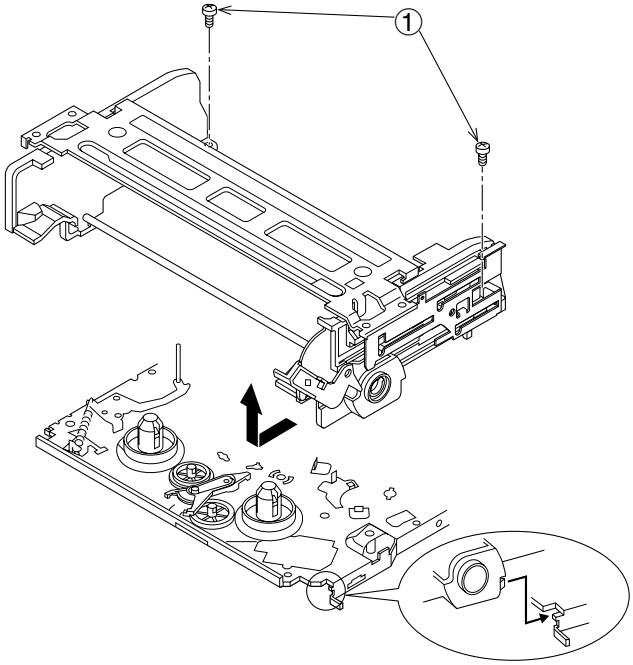


Figure 1-1.

- **Reassembly**

1. Before installing the cassette housing control, short-circuit TP7701 (J301) and TP7702 (J302) provided at the left of the main PWB, press the eject button. The casecon drive gear turns and stops when the positioning mark appears. Engage two teeth of casecon drive gear with the three teeth of casecon drive angle gear, and set on the mechanism chassis as shown below.

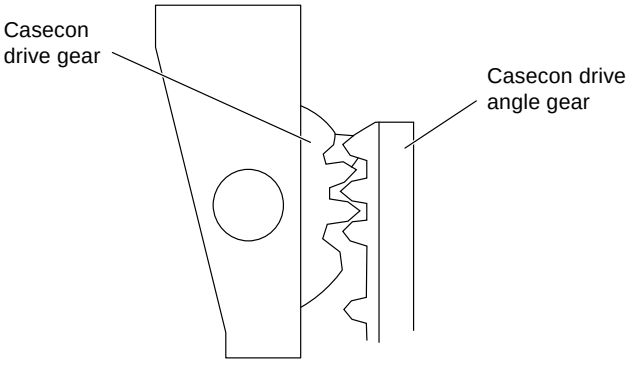


Figure 1-2.

2. Install in the reverse order of removal.

Notes:

1. When fitting the S/E sensor holder to the cassette controller frame L/R, take care.
2. Misengagement of teeth of casecon drive gear and drive angle gear causes malfunction. (The cassette cannot be set, load and ejection are repeated).
3. In the case when you use the magnet screw driver, never approach the magnet driver to the A/C head, FE head, and drum.
4. When installing or removing, take care so that the cassette housing control and tool do not contact the guide pin or drum.
5. After installing the cassette housing control once perform cassette loading operation.

TO RUN A TAPE WITHOUT THE CASSETTE HOUSING CONTROL ASSEMBLY

1. Short-circuit TP7701 (J301) and TP7702 (J302).
2. Plug in the power cord.
3. Turn off the power switch.
   (The pole bases move into U.L.position.)
4. Open the lid of a cassette tape by hand.
5. Hold the lid with two pieces of vinyl tape.
6. Set the cassette tape in the mechanism chassis.
7. Stabilize the cassette tape with a weight (500g) to prevent floating.
8. Turn on the power switch.
9. Perform running test.

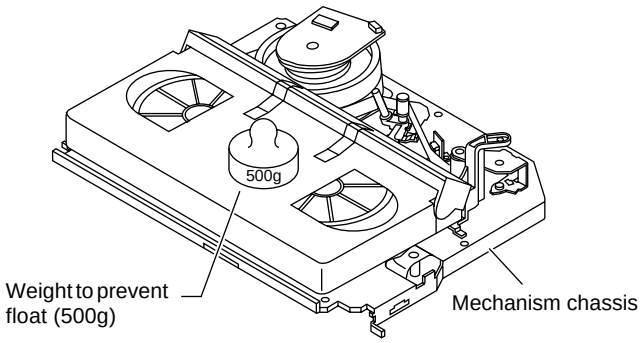


Figure 1-3.

Note:
The weight should not be more than 500g.

- **To take out the cassette tape.**

1. Turn off the power switch.
2. Take out the cassette tape.

REEL DISK REPLACEMENT AND HEIGHT CHECK

- **Removal**

1. Remove the cassette housing control assembly.
2. Pull the tension band out of the tension arm ass'y.
3. Remove the Supply/Take-up main brake ass'y.
4. Open the hook at the top of the reel disk, and remove the reel disk.

Note:
Take care so that the tension band ass'y and main brake ass'y (especially soft brake) are not deformed.

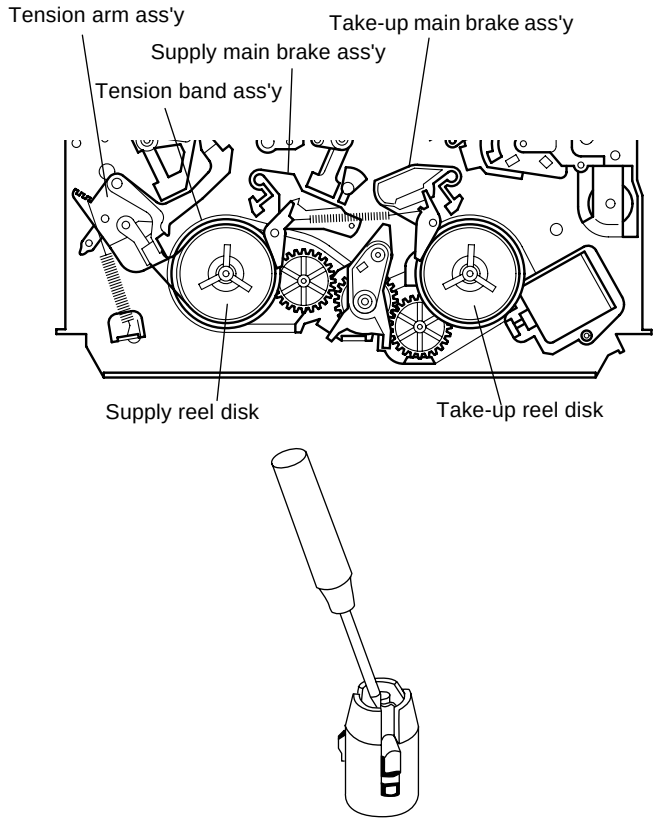


Figure 1-4.

Note:
When the tension band ass'y is pressed in the direction of the arrow for removal, the catch is hard to be deformed.

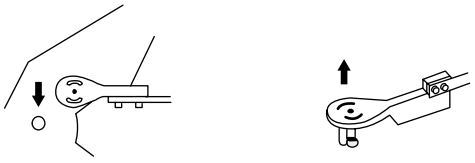


Figure 1-5.

- **Reassembly (Supply reel disk)**

1. Clean the reel disk shaft and apply grease (SC-141) to it.
2. Match the phases of reel disk and reel relay gear, and set the new reel disk.
3. After checking the reel disk height, wind the tension band ass'y around the reel disk, and insert into the hole of tension arm ass'y.
4. Assemble the Sup main brake ass'y.

Notes:
1. When installing the reel disk, take due care so that the tension band ass'y is not deformed and grease does no adhere.
2. Do not damage the Sup main brake ass'y. Be careful so that grease does not adhere to the brake surface.

- **Reassembly (Take-up reel disk)**

1. Clean the reel disk shaft and apply grease (SC-141) to it.
2. Align the phase of the reel disk to that of the reel relay gear and to install a new take-up reel disk onto the shaft.
3. Check the reel disk height and reassemble the take-up main brake ass'y.

Notes:
1. Take care so that the Tu main brake ass'y is not damaged. Take care so that grease does not adhere the brake surface.
2. After reassembly, check the video search rewind back tension (see page 33), and check the brake torque (see page 36).

- **Height checking and adjustment**

Notes:
1. Set the master plane with due care so that it does not contact the drum.
2. When putting the master plane, shift the reverse guide a little in the loading direction. Care must be taken since excessive shift results in damage.

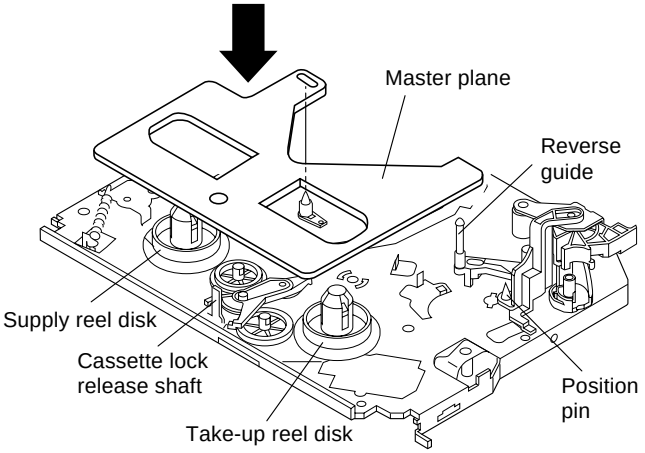


Figure 1-6.

Note:
Check that the reel disk is lower than part A but higher than part B. If the height is not correct, readjust the reel disk height by changing the poly-slider washer under the reel disk.

Note:
Whenever replacing the reel disk, perform the height checking and adjustment.

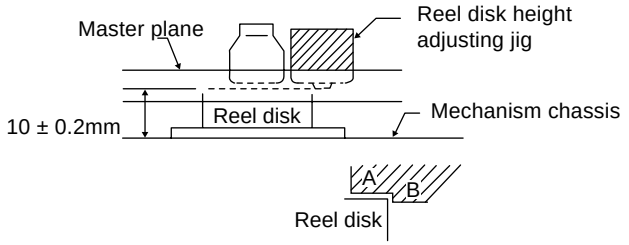


Figure 1-7.

CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN FAST FORWARD MODE

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP7701 (J301) and TP7702 (J302) provided at the left on the main PWB, plug in the power cord, then turn on the power.**

- **Setting**

1. Set a torque gauge to zero on the scale. Place it on the take-up reel disk.
2. Press the FF button.
3. To calculate the remaining capacity of the play back mode, slowly rotate the supply reel disk, and then shift it into the forward mode.

- **Checking**

1. Turn the torque gauge slowly (one rotation every 2 to 3 seconds) by hand in the CW direction.
2. Make sure that the indication of torque gauge is not less than 30mN·m (306gf·cm).

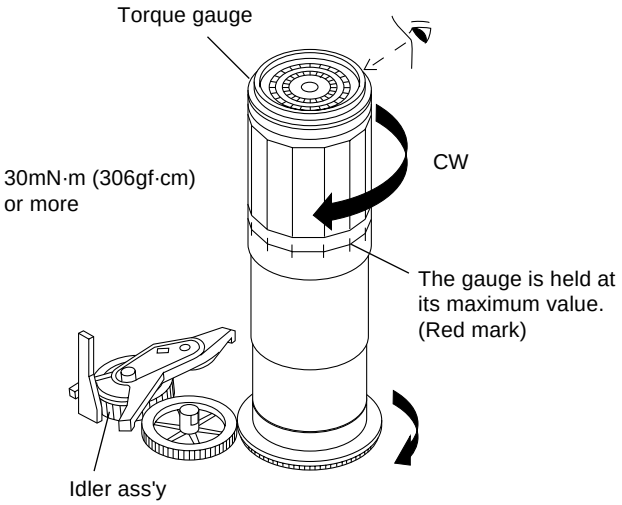


Figure 1-8.

- **Adjustment**

1. If the FF winding-up torque is less than the specified value, clean the capstan D.D. motor pulley, reel belt, and limiter pulley with cleaning liquid, and check again.
2. If the torque is less that the set value, replace the reel belt.

Notes:
1. Hold the torque gauge by hand so that it is not moved.
2. Do not keep the reel disk in lock state. Do not allow long-time measurement.

CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN REWIND MODE

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP7701 (J301) and TP7702 (J302) provided at the left on the main PWB, plug in the power cord, then turn on the power.**

- **Setting**

1. Set a torque gauge to zero on the scale. Place it on the supply reel disk.
2. Press the rewind button.
3. To calculate the remaining capacity, slowly rotate the take-up reel disk, and then shift it into the rewind mode.

- **Checking**

1. Turn the torque gauge slowly (one rotation every 2 to 3 seconds) by hand in the CCW direction.
2. Make sure that the indication of torque gauge is not less than 30mN·m (306gf·cm).

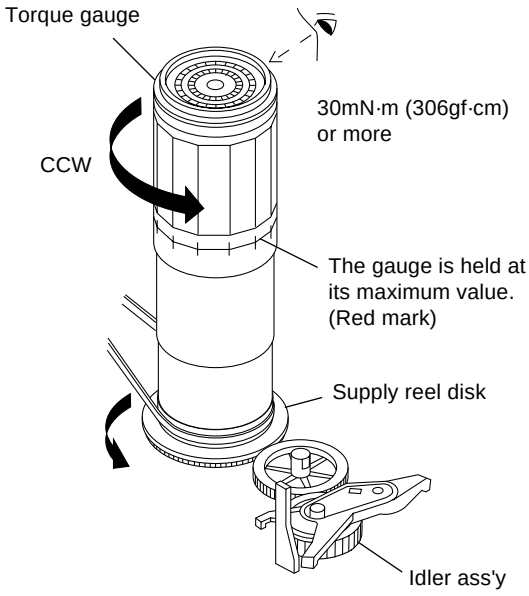


Figure 1-9.

- **Adjustment**

1. If the rewind winding-up torque is less than the specified value, clean the capstan D.D. motor pulley, drive belt, and limiter pulley with cleaning liquid, rewind again, and check the winding-up torque.
2. If the winding-up torque is still out of range, replace the drive belt.

Notes:
1. Hold the torque gauge by hand so that it is not moved.
2. Do not keep the reel disk in lock state. Do not allow long-time measurement.

CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN RECORD/PLAYBACK MODE

- **Remove the cassette housing control assembly.**
- **After short-circuiting TP7701 (J301) and TP7702 (J302) provided at the left on the main PWB, plug in the power cord.**
- **Turn off the power switch.**
- **Open the cassette torque meter lid, and fix it with tape.**
- **Load the cassette torque meter into the unit.**
- **Put the weight (500g) on the cassette torque meter.**
- **Turn on the power switch.**
- **Press the REC button, and set LP picture record mode.**

Set value LP6.9 ± 2.5mN·m (70 ± 25gf·cm)

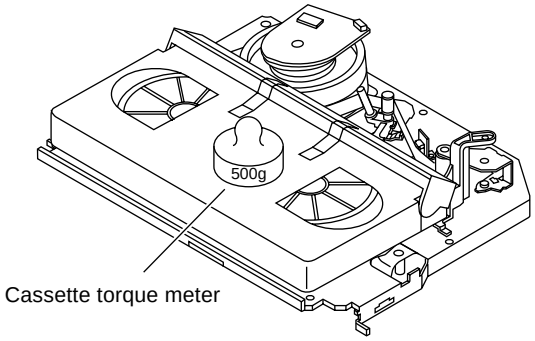


Figure 1-10.

- **Checking**

1. Make sure that value is within the setting 6.9±2.5mN·m (70±25gf·cm).
2. The winding-up torque fluctuates due to variation of rotation torque of limiter pulley ass'y. Read the center value of fluctuation as setting.
3. Set the LP record mode and make sure that the winding-up torque is within setting.

- **Adjustment**

1. If the playback winding-up torque is not within the setting, replace the limiter pulley assembly.

Note:
When the torque cassette is set, put a weight (500g) to prevent rise.
When the cassette torque meter is taken out, turn off the power switch.

CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN VIDEO SEARCH REWIND MODE

- **Remove the cassette housing control assembly.**
- **After short-circuiting TP7701 (J301) and TP7702 (J302) provided at the left on the main PWB, plug in the power cord, then turn on the power.**
- **Setting**

1. Press the playback button and rewind button to set the video search rewinding mode.

- **Checking**

1. Place the torque gauge on the supply reel disk, and turn it counterclockwise very slowly (one rotation every 1 to 2 seconds) and check that the torque is within the set value 14.0 ± 3.9mN·m. (144 ± 40gf·cm)

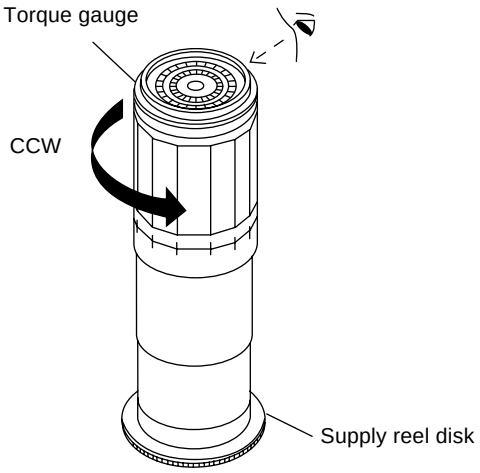


Figure 1-11.

Note:
Surely put the torque gauge on the reel disk to measure. If the torque gauge is raised, accurate measurement is impossible.

- **Adjustment**

1. If the rewinding playback winding-up torque is not within the setting, replace the limiter pulley assembly.

Note:
The winding-up torque fluctuates due to variation of rotation torque of supply reel disk. Read the center value of fluctuation as setting.

CHECKING THE VIDEO SEARCH REWIND BACK TENSION

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP7701 (J301) and TP7702 (J302) provided at the left on the main PWB, plug in the power cord, then turn on the power.**

- **Checking**

1. After pressing the play button, press the rewind button, and set the video search rewind mode.
2. Place the torque gauge on the take-up reel disk, and turn it counterclockwise very slowly (one rotation every 2 to 3 seconds) and check that the torque is within the set value 3.4±1.5mN·m (35±15gf·cm).

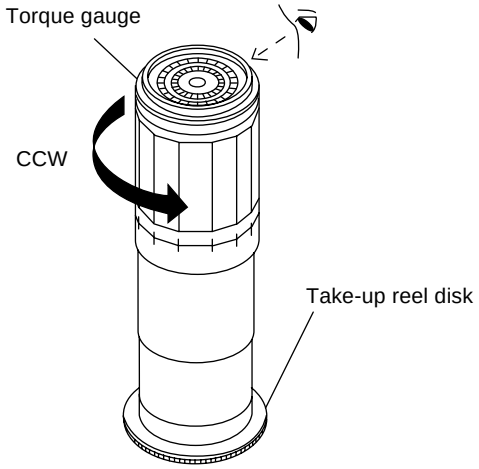


Figure 1-12.

Note:
Set the torque gauge securely on the take-up reel disk. If it is not secure, the measurement will be incorrect.

CHECKING THE PINCH ROLLER PRESSURE

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP7701 (J301) and TP7702 (J302) provided at the left on the main PWB, plug in the power cord, then turn on the power.**

- **Checking**

1. Press the play button to set the playback mode.
2. Detach the pinch roller from the capstan shaft.
   Do not separate excessively. Or the pinch lever and pinch double action lever may disengage.
3. Engage the tension gauge adapter with the pinch roller shaft, and pull in the arrow direction.

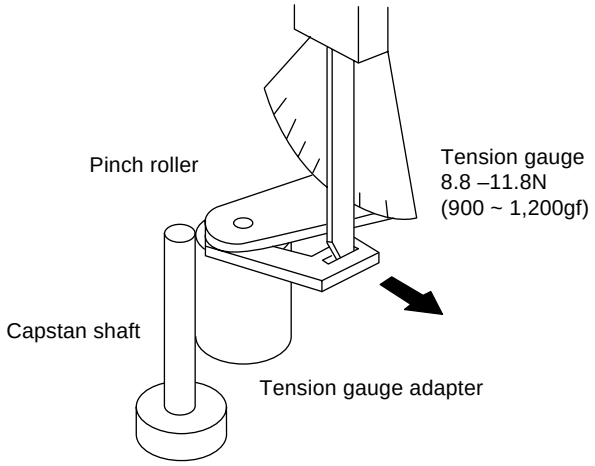


Figure 1-13.

4. Gradually return the pinch roller, and measure the pulling force when the pinch roller contacts the capstan shaft.
5. Make sure that the measured value is within setting 8.8 to 11.8 N (900 to 1,200gf).

CHECKING AND ADJUSTMENT OF TENSION POLE POSITION

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP7701 (J301) and TP7702 (J302) provided at the left on the main PWB, plug in the power cord.**

- **Setting**

1. Turn off the power switch.
2. Open the cassette tape (E-180), and fix with tape.
3. Set the cassette tape in loading state.
4. Put the weight (500g) on the cassette tape.
5. Turn on the power switch.
6. Make the adjustment with the beginning of a E-180 tape.

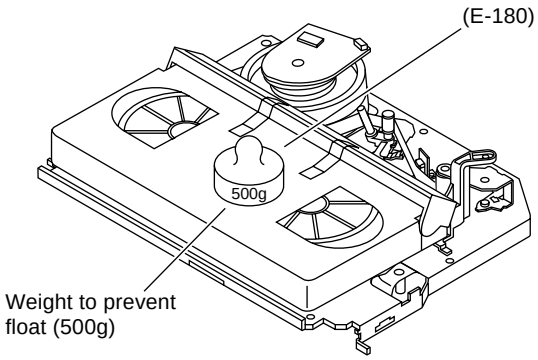
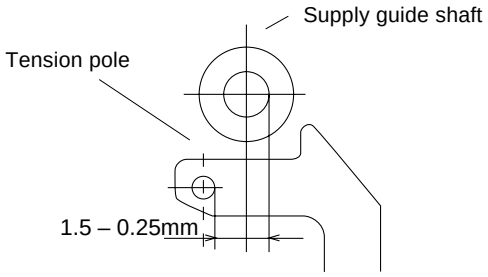


Figure 1-14.

- **Checking**

1. Set a cassette tape, push the REC button to place the unit in the SP record mode. Now check the tension pole position.
2. Visually check to see if the right edge of the tension pole is within the 1.5 ± 0.25mm from the right edge of the Sup guide shaft.



Make the adjustment with the beginning of a E-180 tape.

Figure 1-15.

At left side from the center line

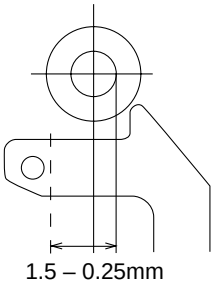


Figure 1-16.

Insert the slotted screwdriver in the tension pole adjuster, and rotate counterclockwise.

At right side from the center line

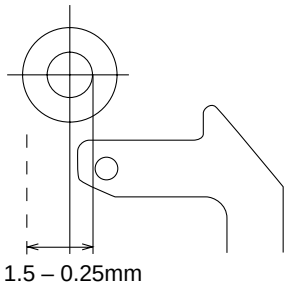


Figure 1-17.

Insert the slotted screwdriver in the tension pole adjuster, and rotate clockwise.

Tension pole adjuster adjusting range

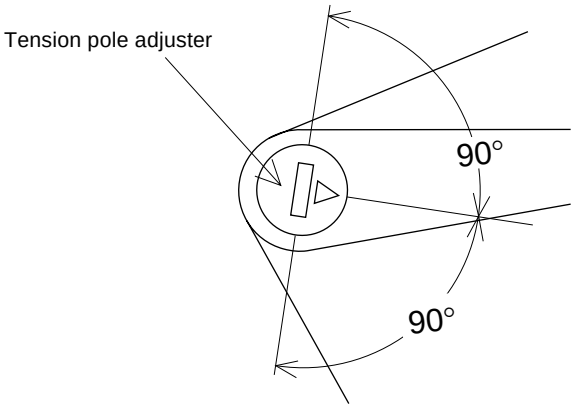


Figure 1-18.

Adjust so that the delta mark of tension pole adjuster is within 90° range (left, right).

CHECKING AND ADJUSTMENT OF RECORD/PLAYBACK BACK TENSION

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP7701 (J301) and TP7702 (J302) provided at the left on the main PWB, plug in the power cord.**

- **Setting**

1. Turn off the power switch.
2. Open the torque cassette meter and fix with tape.
3. Set the cassette tape in loading state.
4. Put the weight (500g) on the cassette torque meter.
5. Turn on the power switch.

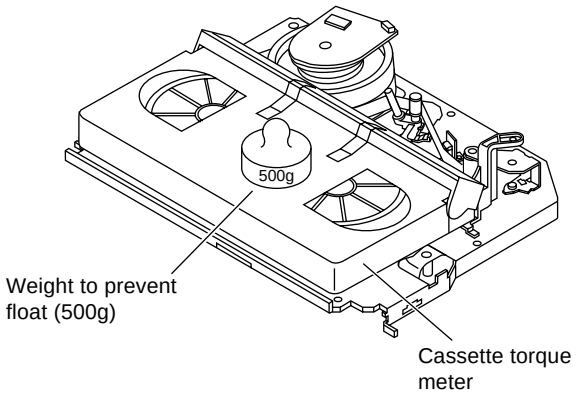


Figure 1-19.

- **Checking**

1. Push the REC button to place the unit in the SP record mode.
2. At this time ascertain that the back tension is within the setting (36.5 to 52g·cm) by seeing the indication of torque cassette meter.

- **Adjustment**

1. If the indication of torque cassette meter is lower than the setting, shift the tension spring engagement to the part A.
2. If the indication of torque cassette meter is higher than the setting, shift the tension spring engagement to the part B.

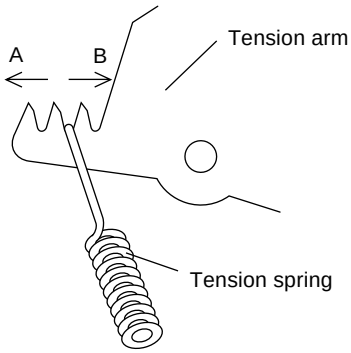
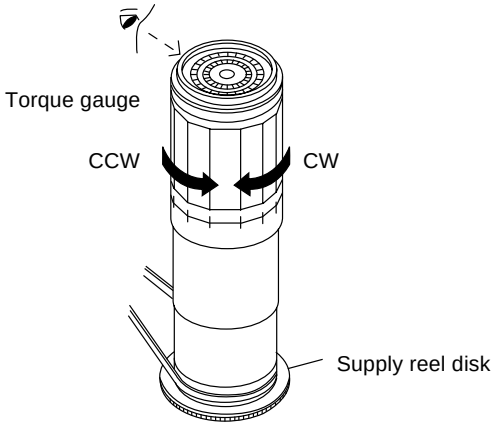


Figure 1-20.

CHECKING THE BRAKE TORQUE

- **Checking the brake torque at the supply side**



CCW:	3.9~9.8mN·m (40~100gf·cm)
CW:	8.8~23.5mN·m (90~240gf·cm)

Figure 1-21.

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP7701 (J301) and TP7702 (J302) provided at the left on the main PWB, plug in the power cord, then turn on the power.**

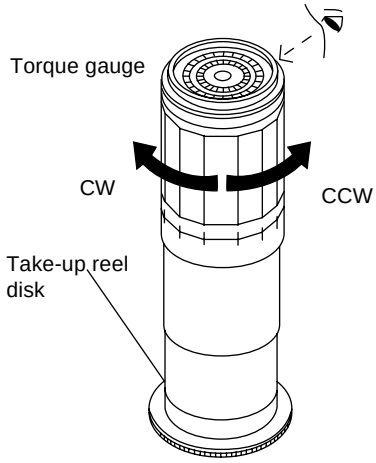
- **Setting**

1. Set a torque gauge to zero on the scale. Place it on the supply reel disk.
2. Switch from the FF mode to the STOP mode.
3. Disconnect the power cord.

- **Checking**

Turn the torque gauge at a rate of about one turn/2 sec in the CW direction/CCW direction with respect to the supply reel disk so that the reel disk and torque gauge pointer rotate at equal speed, and make sure that the value is within the setting (CW direction: 8.8 to 23.5mN·m (90 to 240gf·cm); CCW direction: 3.9 to 9.8mN·m (40 to 100gf·cm).

- **Checking the brake torque at the take-up side**



CCW:	8.8~23.5mN·m (90~240gf·cm)
CW:	4.9~11.8mN·m (50~120gf·cm)

Figure 1-22.

- **Remove the cassette housing control assembly.**

- **After short-circuiting TP7701 (J301) and TP7702 (J302) provided at the left on the main PWB, plug in the power cord, then turn on the power.**

- **Setting**

1. Switch from the FF mode to the STOP mode.
2. Disconnect the power cord.
3. Set a torque gauge to zero on the scale. Place it on the take-up reel disk.

- **Checking**

1. Turn the torque gauge at a rate of about one turn/2 sec in the CCW direction/CW direction so that the reel disk and torque gauge pointer rotates at equal speed and make sure that the value is within the setting (CCW direction: 8.8 to 23.5mN·m (90 to 240gf·cm), CW direction: 4.9 to 11.8mN·m (50 to 120gf·cm).

2. Adjustment of the brake torque at the supply side and the take-up side

- Unless the supply side brake torque or take-up side brake torque is within the setting, clean the felt surface of reel disk (supply, take-up) brake lever, check again the brake torque.
- If value cannot be set within the setting yet, replace the main brake ass'y or main brake spring.

REPLACEMENT OF A/C (Audio/Control) HEAD

1. Remove the cassette housing control assembly.
2. In unloading state unplug the power cord.

- **Removal**

1. Remove the screws ①②③, Azimuth screw and Tilt screw.
2. Unsolder the PWB fitted to the A/C head

Notes:

1. When replacing, never touch the head. If you touched, clean with the cleaning liquid.
2. When removing the screw ③, take care so that the spring may spring out.

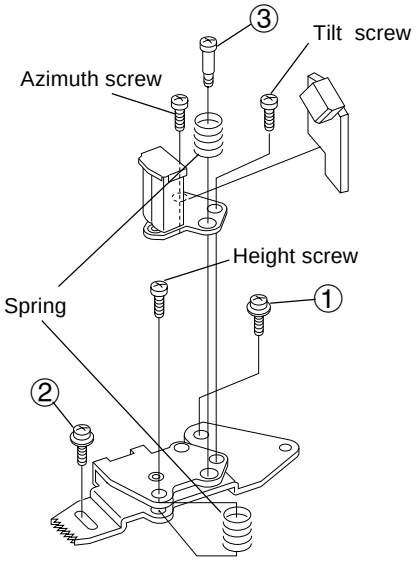


Figure 1-23.

- **Replacement**

1. Solder the removed PWB to the new head assembly.
2. Adjust the height from the A/C head plate (lower surface) to the A/C head base to 10.8mm with slide calipers. (3 places of azimuth screw section, tilt screw section and height screw section)(See the figure below.)

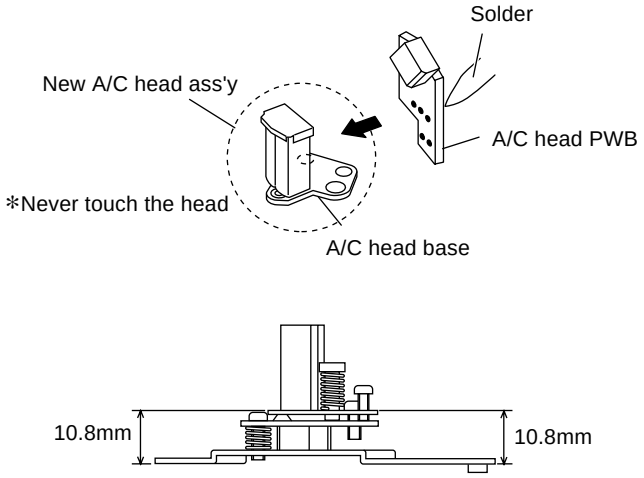


Figure 1-24.

3. Align the left end of gear of A/C head plate with the punched mark of chassis, tentatively tighten the screws ① and ② so as to ensure smooth motion of A/C head plate. Tentative tightening torque must be 0.15 to 0.20 N·m (1.5 to 2.0kgf·cm).

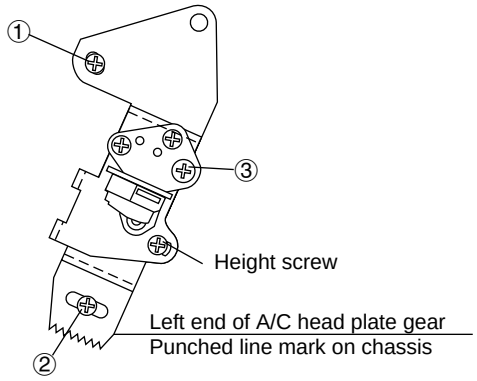


Figure 1-25.

Notes:

1. If the screws ① and ② are tighten tentatively too loose, the azimuth and height of A/C head may change when they are finally tightened. Therefore care must be taken.
2. After completion of A/C head be sure to adjust tape running. (Execute the running adjustment by the method described in Pages 38 and 39.)

A/C HEAD HEIGHT ROUGH ADJUSTMENT

- **Setting**

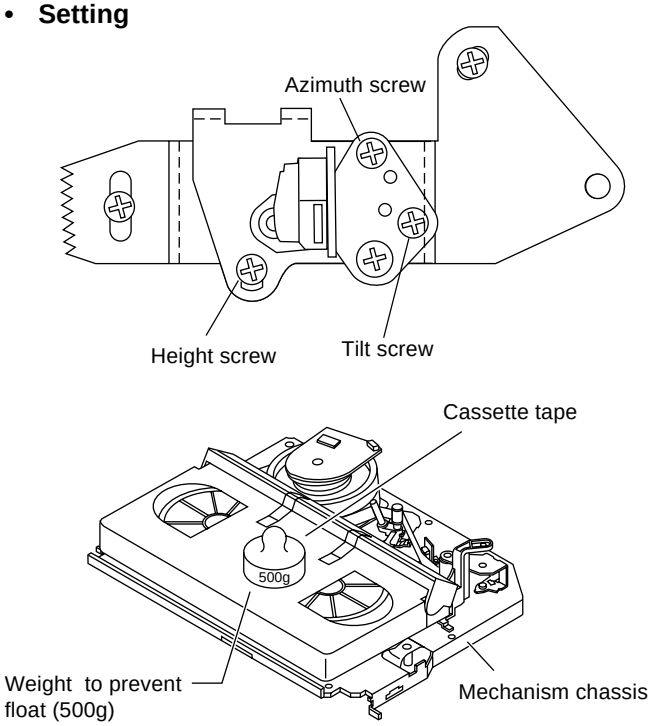


Figure 1-26.

1. Set the cassette tape in the unit.
2. Press the PLAY button to put the unit in the playback mode.
3. Roughly adjust the height of the A/C head by turning the height screw until the tape is in the position shown below.

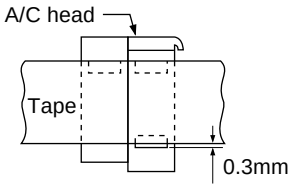


Figure 1-27.

- **Adjustment**

Adjust the height screw visually so that the control head is visible 0.3mm below the bottom of the tape.

HEIGHT ADJUSTMENT OF REVERSE GUIDE

1. Adjust the height from the mechanism chassis to the reverse guide lower flange to 13.38 mm, using the reverse guide height adjustment jig, in tape loading state. (Refer to Figure 1-28 (a) (b).)

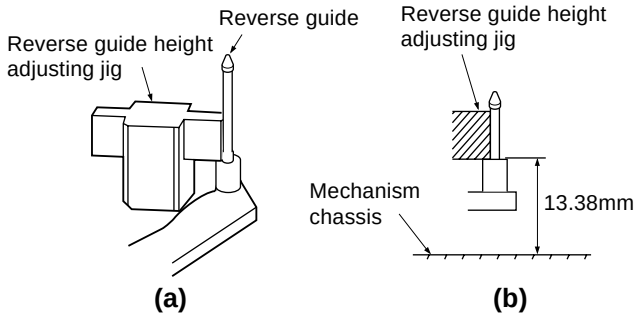


Figure 1-28.

2. Rotate counterclockwise the reverse guide height adjustment nut 1/10 turn. (For height adjustment use the reverse guide height adjustment box driver (JiGDRiVER 11055)).

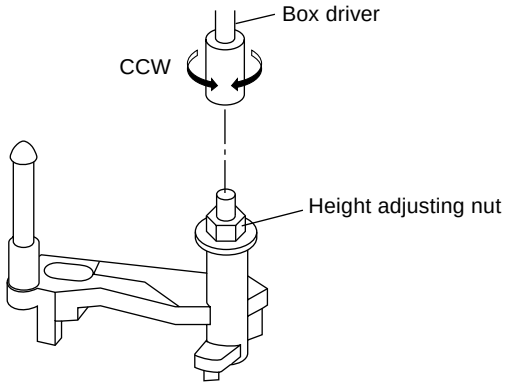
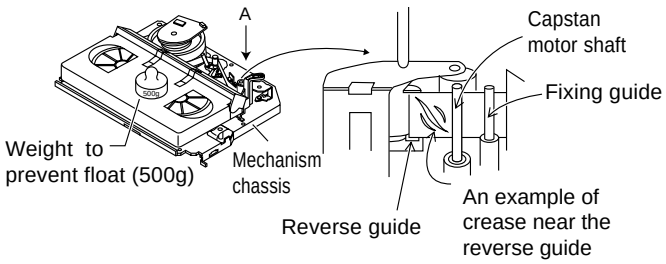


Figure 1-29.

3. Set the tape, and check for tape crease near the reverse guide in the playback mode.
   If crease is found, turn the reverse guide adjustment nut to remove crease. (As for crease check refer to Figure 1-30.)



✻ Check for crease from the A direction.

Figure 1-30.

ADJUSTMENT OF TAPE DRIVE TRAIN

1. Tape run rough adjustment
   ① Remove the cassette housing control assembly.
   ② After shortcircuiting TP7701 (J301) and TP7702 (J302) provided at the left on the main PWB, plug in the power cord, then turn on the power.
   ③ Check and adjust the position of the tension pole. (See page 33.)
   ④ Check and adjust the video search rewind back tension. (See page 33.)
   ⑤ Connect the oscilloscope to the test point for PB CHROMA envelope output (TP3301). Set the synchronism of the oscilloscope to EXT. The PB CHROMA signal is to be triggered by the head switching pulse (TP3302).
   ⑥ After turnning off the power, set the alignment tape (VROCPSV) then turn on the power and playback the tape. (Put a 500g weight on the cassette tape to prevent lift of cassette tape.)

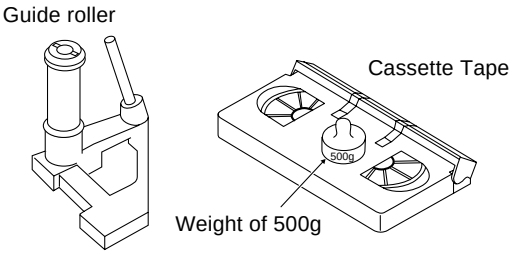


Figure 1-31.

   ⑦ Press the tracking button (+), (–) and change the envelope waveform from max to min and from min to max. At this time make sure that the envelope waveform changes nearly parallel.
   ⑧ Unless the envelope waveform changes nearly parallel, adjust the height of supply side and take-up side guide roller so that the envelope waveform changes nearly parallel. (For envelop adjustment procedure refer to Figure 1-35.)
   ⑨ Turn the tilt screw to remove the tape crease at the fixing guide flange.
   Play back the tape and check for tape crease at the fixing guide flange.
   (1) If there is no tape crease
   Turn the tilt screw clockwise so that tape crease appears once at the flange, and then return the tilt screw so that the crease disappears.
   (2) If there is tape crease
   Turn counterclockwise the tilt screw so that the tape crease disappears.
   (Reference) If the tilt screw is turned clockwise crease appears at the lower flange.

Notes:

1. Previously set the tracking control in the center position, and adjust the envelop waveform to maximum with X value adjustment nut. Thereby the tape run rough adjustment is facilitated.
2. Especially the outlet side envelope waveform must have higher flatness.

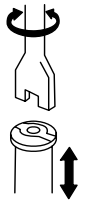


Figure 1-32.

2. Adjustment of A/C head height and azimuth
   ① Perform the initial setting of A/C head position by the method stated in "Page 37 Replacement -3.".
   ② Connect the oscilloscope to the audio output (TP6601).
   ③ Using the alignment tape in which 1 kHz linear audio signal has been recorded, adjust the height screw so as to get max audio output.
   ④ Using the alignment tape in which 6 kHz linear audio signal has been recorded, adjust the azimuth screw so as to get max audio output.
   ⑤ The adjustment of ③ and ④ twice or three times repeat, and finally adjust ④.

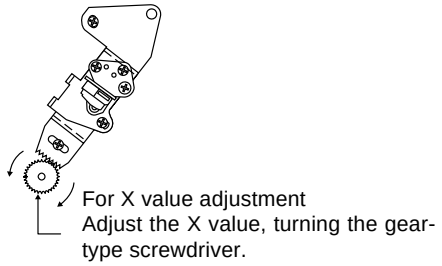
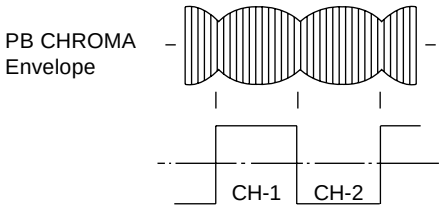


Figure 1-33.

3. Tape run adjustment
   ① Connect the oscilloscope to PB CHROMA envelope output test point (TP3301), set oscilloscope sync to EXT, trigger-input the head switching pulse (TP3302).
   ② Rough adjustment of X value
   Tentatively fix A/C head arm screws ① and ② by the method described in Page 36 "Replacement -3.".
   After shortcircuiting TP7701 (J301) and TP7702 (J302), plug in the power cord, turn off the power, set the alignment tape (VROCPSV), turn on the power and then playback the tape. As a result the auto-tracking is automatically cancelled, so that the X value adjustment mode is set.
   Move the A/C head with the X value adjustment gear driver (JiGDRiVER-6) by the method shown in Figure 1-33, and adjust the A/C head so as to get the maximum envelope waveform. (Note: When the A/C head is adjusted, adjust so that the maximum envelop waveform is obtained nearest the position of initial setting made in Page 37.)
   ③ When the VROUBZFS tape is used, press the tracking button (+), (–) and change the envelope waveform from max to min and from min to max. At this time adjust the height of supply and take-up side guide roller with the adjustment driver (JiGDRiVERH-4) so that the envelope waveform changes nearly parallel.

④ If the tape is lifted or sunk from the helical lead surface, the PB CHROMA envelope waveform appears as shown in Figure 1-35.
⑤ Press the tracking button (+), (–) and make sure that the envelope waveform changes nearly parallel.
⑥ Finally check tape crease near the reverse guide. If tape crease is found, remove it as stated in Page 37"HEIGHT ADJUSTMENT OF REVERSE GUIDE" item 3.



Head switching pulse

Figure 1-34.

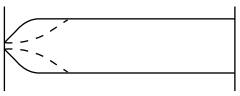
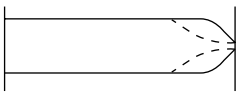
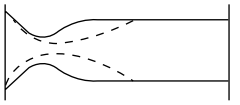
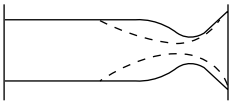
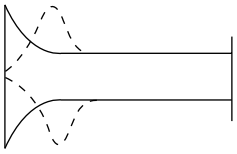
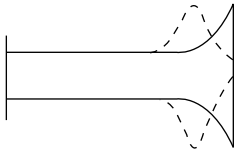
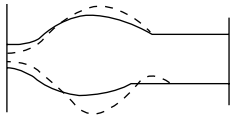
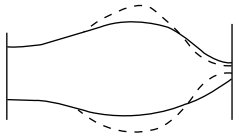
	When the tape is above the helical lead.		When the tape is below the helicallead.	
	Supply side	Take-up side	Supply side	Take-up side
				
				
Adjustment	Supply side guide roller rotated in clockwise direction (lowers guide roller) to flatten envelope.	Take-up side guide roller rotated in clockwise direction (lowers guide roller) to flatten envelope.	Supply side guide roller rotated in counterclock-wise direction (raises guide roller) to make the tape float above the helical lead. The supply side guide roller is then rotated in the clockwise direction to flatten the envelope.	Take-up side guide roller rotated in counterclock-wise direction (raises guide roller) to make the tape float above the helical lead. The take-up side guide roller is then rotated in the clockwise direction to flatten the envelope.

Figure 1-35.

4. A/C head X value adjustment
   ① Tentatively fix A/C head arm screws ① and ② by the method described in Page 36"Replacement -3.".
   ② After shortcircuiting TP7701 (J301) and TP7702 (J302), plug in the power cord, turn off the power, set the alignment tape (VROUBZFS), turn on the power and then playback the tape. As a result the auto-tracking is automatically cancelled, so that the X value adjustment mode is set.
   ③ Move the A/C head with the X value adjustment gear driver by the method shown in Figure 1-33, and adjust the A/C head so as to get the maximum envelope waveform. (Note: At this time adjust so as to get the maximum envelope waveform nearest the A/C head position which has been set in case of X value rough adjustment as stated in Page 38, 3-②).
   ④ Tighten finally the screws ① and ②. Be sure to tighten at first the screw ① and then the screw ②. Final tightening torque is 0.6N·m (If the screw ② is tightened first, the X value may deviate.)
   ⑤ Adjust the playback switching point (Refer to the electric adjustment method.)
   ⑥ Playback the self-picture-recorded tape, and check the flatness of envelope waveform and sound.

Note:
When the A/C head X value adjustment is performed, be sure to perform at first X value rough adjustment (refer to Page 38, 3-②).

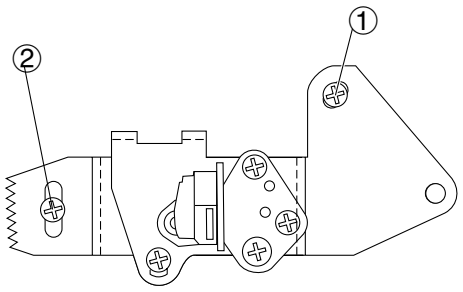


Figure 1-36.

REPLACEMENT OF THE CAPSTAN D.D. (DIRECT DRIVE) MOTOR

- Remove the mechanism from the main PWB (refer to "7. Remove the 4 mechanism chassis fixing screws, and detach the mechanism chassis from the Main PWB" on page 7.).

- **Removal (Follow the order of indicated numbers.)**

1. Remove the reel belt ①.
2. Remove the three screws ②.

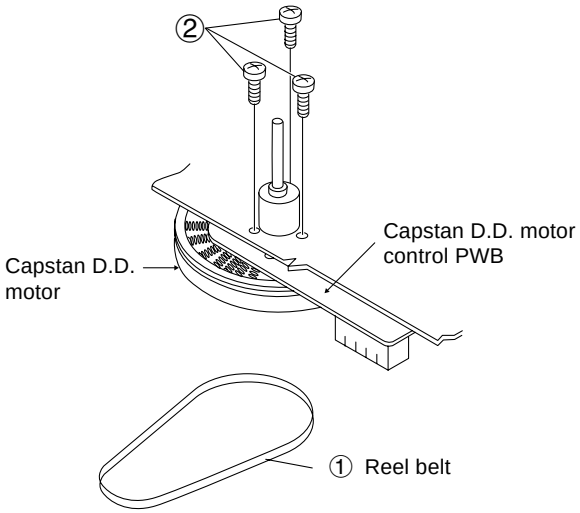


Figure 1-37.

- **Reassembly**

1. Taking care so that the capstan shaft does not contact the mechanism chassis, set its position on the mechanism chassis, and then install with the three screws.
2. Install the reel belt.

Notes:

1. After installing the capstan D.D. motor, be sure to rotate the capstan D.D. motor and check the movement.
2. Set the tape, and check for the tape crease near the reverse guide in the playback mode. Adjust the A/C head and azimuth as stated in Page 38 item 2. If crease is found, adjust as stated in Page 37 "HEIGHT ADJUSTMENT OF REVERSE GUIDE".

REPLACEMENT OF DRUM D.D. MOTOR

1. Set the eject mode.
2. Withdraw the main power plug from the socket.

- **Removal (Perform in numerical order.)**

1. Disconnect the FFC cable ①.
2. Unscrew the D.D. stator assembly fixing screws ②.
3. Take out the D.D. stator assembly ③.
4. Unscrew the D.D. rotor assembly fixing screws ④.
5. Take out the D.D. rotor assembly ⑤.

Notes:

1. In removing the D.D. stator assembly, part of the drum earth spring pops out of the pre-load collar. Be careful not to lose it.
2. Install, so that the D.D. rotor ass'y and upper drum ass'y mounting direction check holes align. (Align the upper drum dent with the rotor hole.)
3. Be careful not to damage the upper drum or the video head.
4. Protect the hole elements from shock due to contact with D.D. stator or D.D. rotor ass'y.
5. After installation adjust the playback switching point for adjustment of servo circuit.

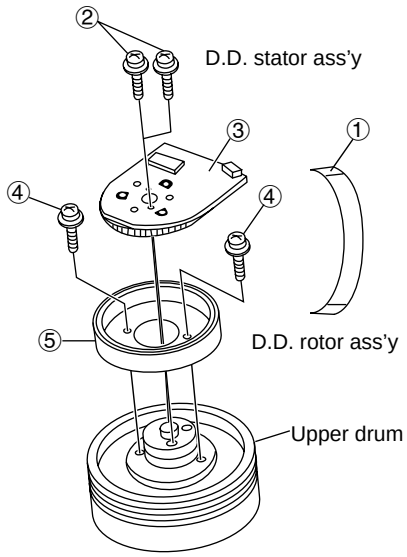


Figure 1-38.

REPLACING THE UPPER AND LOWER DRUM ASSEMBLY

• Replacement (Perform in the numerical order)
① Remove the motor as stated in Page 40 D.D. motor replacement.
② Remove the drum earth brush ②.
③ Remove the drum base ③ from the upper and lower drum assembly ①.

[Cares when replacing the drum]

1. Be careful so that the drum earth brush is not lost.
2. Do not touch directly the drum surface.
3. Fit gently the screwdriver to the screws.
4. Since the drum assembly is an extremely precise assembly, it must be handled with utmost care.
5. Make sure that the drum surface is free from dust, dirt and foreign substances.
6. After replacing the drum be sure to perform the tape running adjustment.
   After that, perform also the electrical adjustment.
   • Playback switching point adjustment
   • X-position adjustment and check
7. After replacing the drum clean the drum.

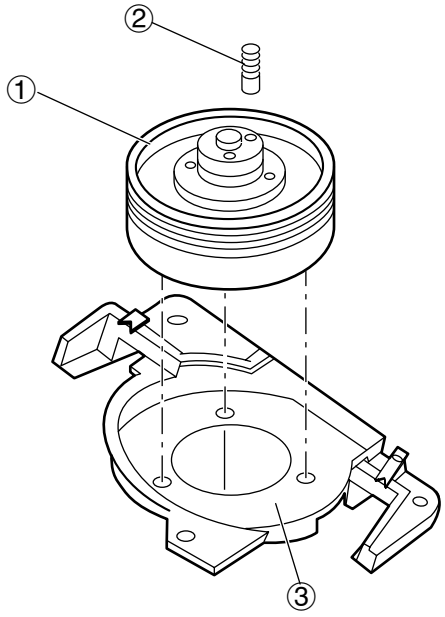


Figure 1-39.

ASSEMBLING OF PHASE MATCHING MECHANISM COMPONENTS

- **Assemble the phase matching mechanism components in the following order.**

1. Assemble the pinch roller assembly and pinch drive cam.
2. Mounting the shifter (on the back of the mechanism chassis).
3. Mounting the master cam (on the back of the mechanism chassis).
4. Assemble the connection gear, slow brake and loading motor parts.

- **Pinch drive cam and pinch roller assembling method.**
  (Place the following parts in position in numerical order.)

(1) Reverse drive lever ①
(2) Reverse guide spring ②
(3) Reverse guide lever ass'y ③
(4) Reverse guide height adjusting nut ④
(5) Pinch drive cam ⑤
(6) Pinch roller ass'y ⑥
(7) Open lever ⑦

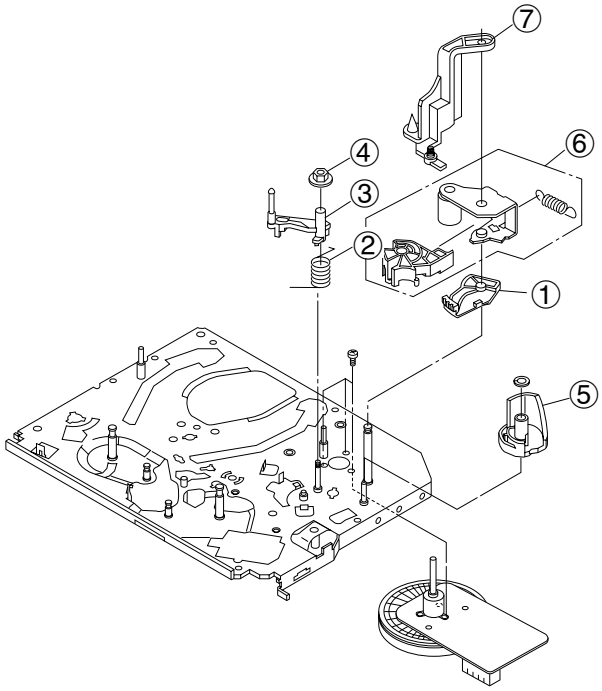


Figure 1-40.

①Insert Reverse Guide Lever Ass'y

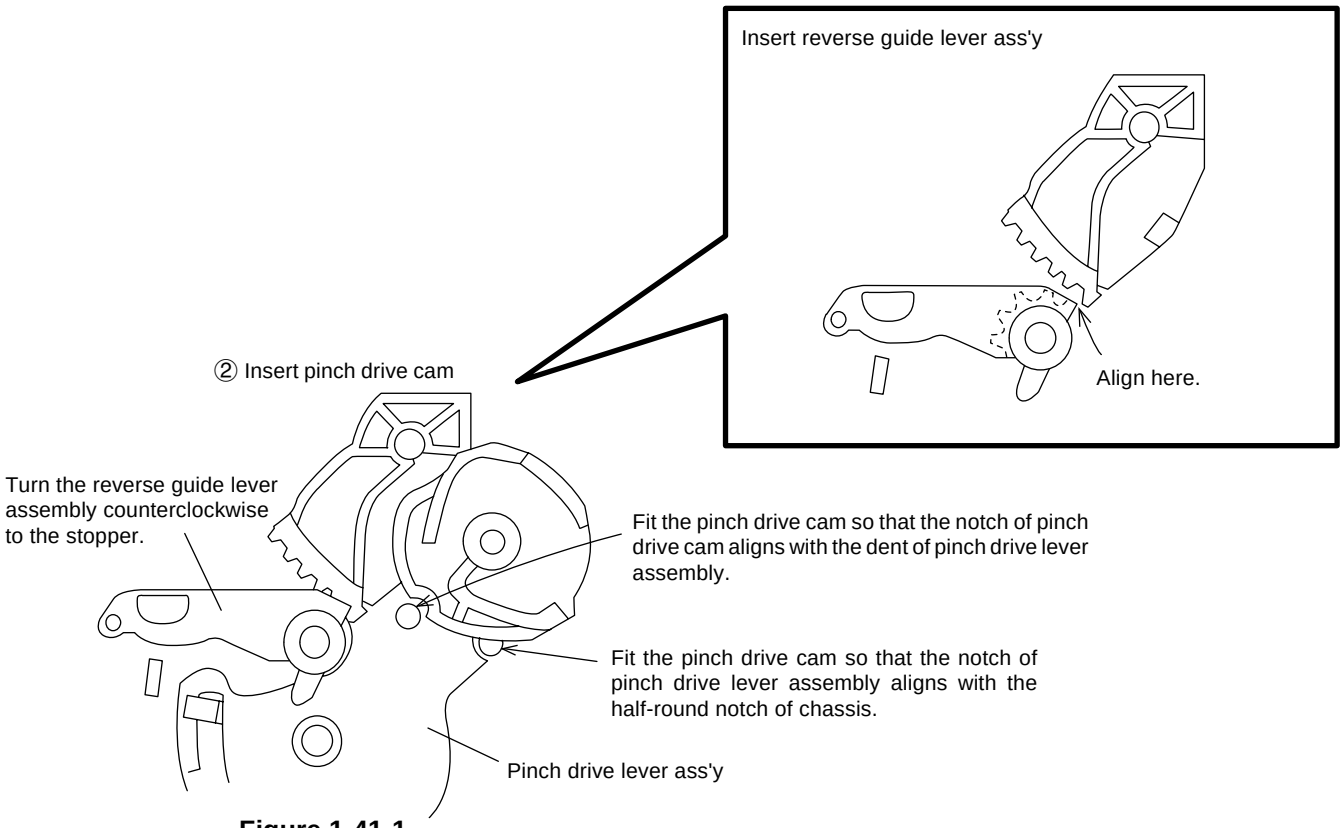

Insert reverse guide lever ass'y
Align here.
② Insert pinch drive cam
Turn the reverse guide lever assembly counterclockwise to the stopper.
Fit the pinch drive cam so that the notch of pinch drive cam aligns with the dent of pinch drive lever assembly.
Fit the pinch drive cam so that the notch of pinch drive lever assembly aligns with the half-round notch of chassis.
Pinch drive lever ass'y

Figure 1-41-1.

②Insert Pinch Roller/Pinch Double Action Lever Ass'y.

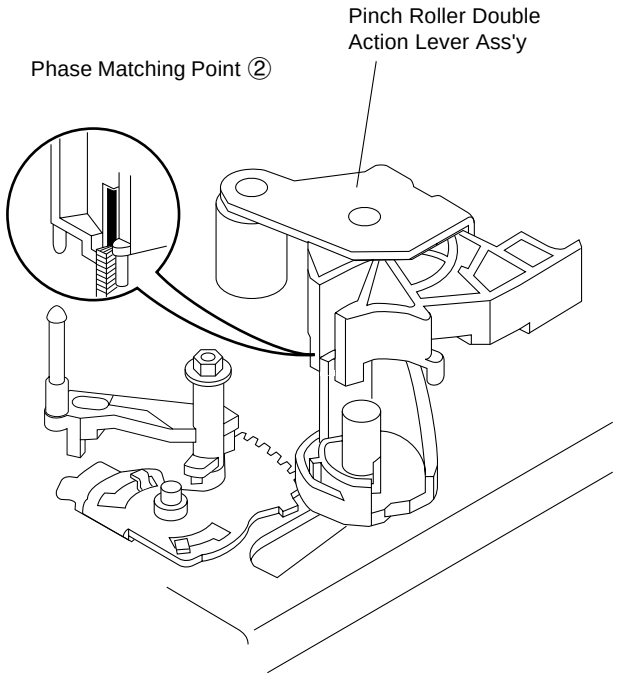


Figure 1-41-2.

③Insert Open Lever.

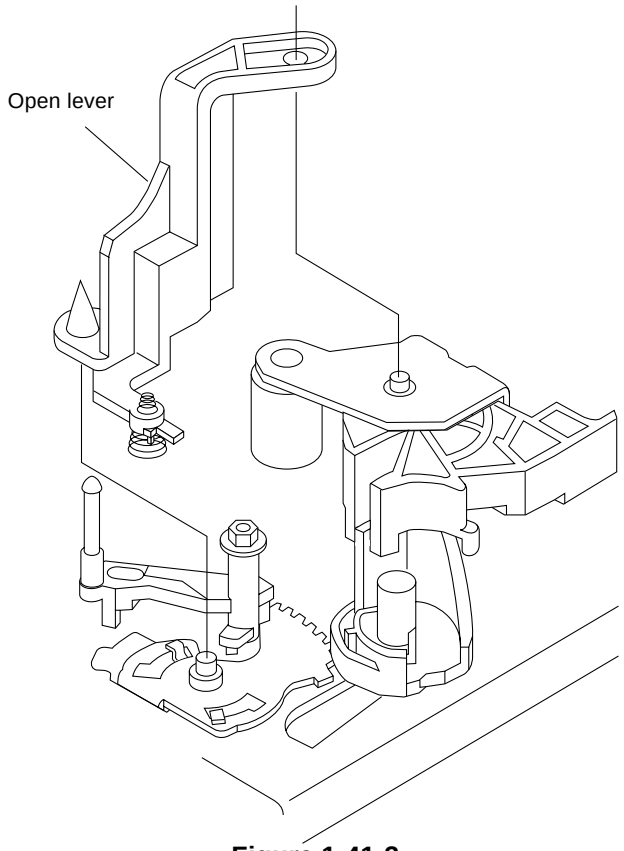


Figure 1-41-3.

INSTALLING THE SHIFTER

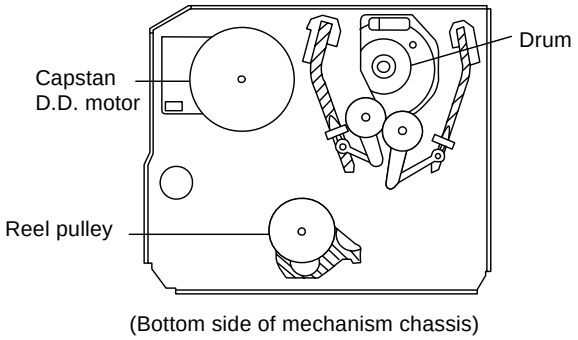


Figure 1-42.

1. Make sure that the loading gear is at the phase-matching point ① as shown below.
2. Install, paying attention to ⑤ insertion points and ③ release points.
3. For the phase matching at the insertion point ①, see the phase-matching point ② as shown below.
4. Finally fix the inserts ① and ④.

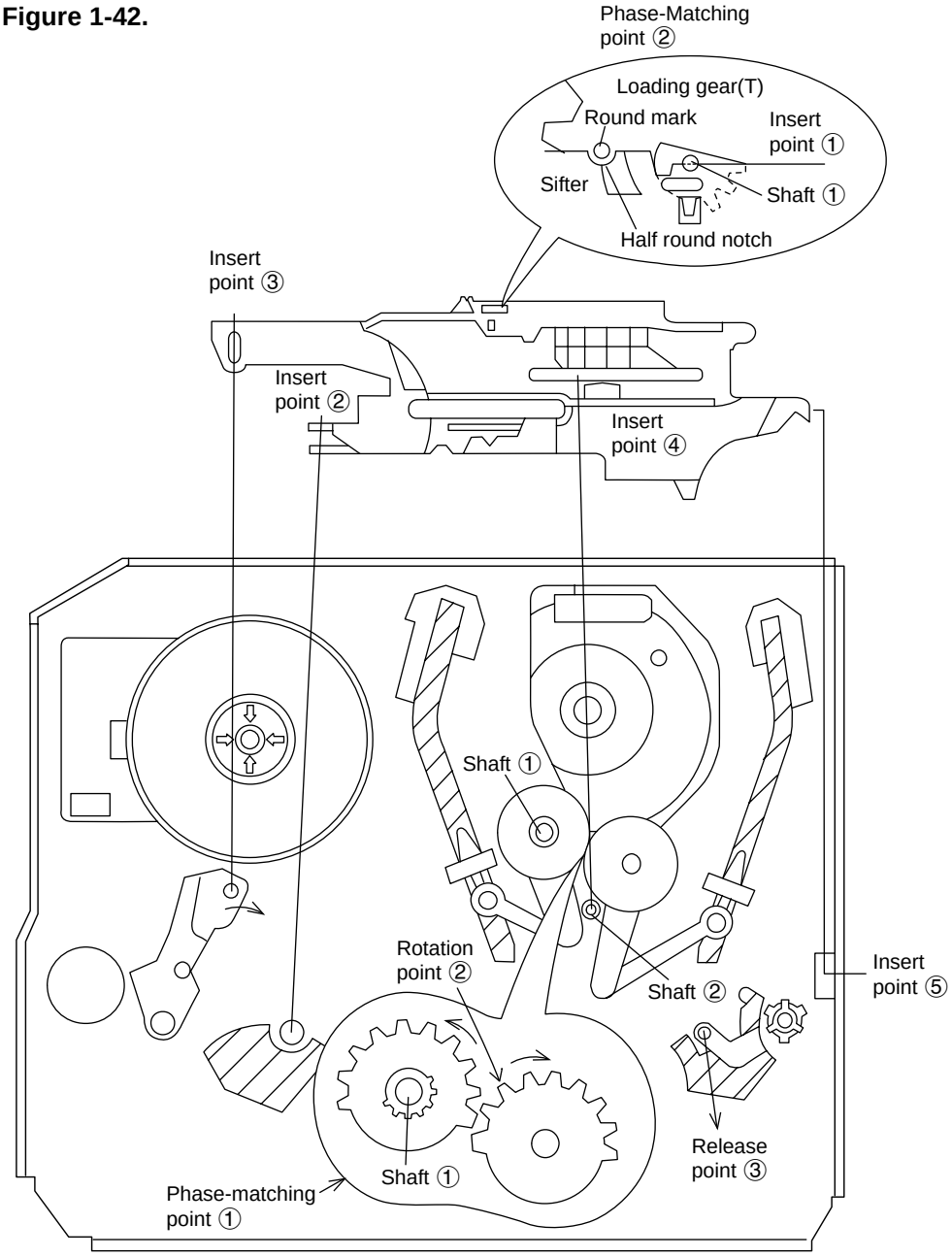


Figure 1-43.

INSTALLING THE MASTER CAM (AT REAR SIDE OF MECHANISM CHASSIS)

1. Make sure beforehand that the shifter is at the point as shown below.
2. Place the master cam in the position as shown below.

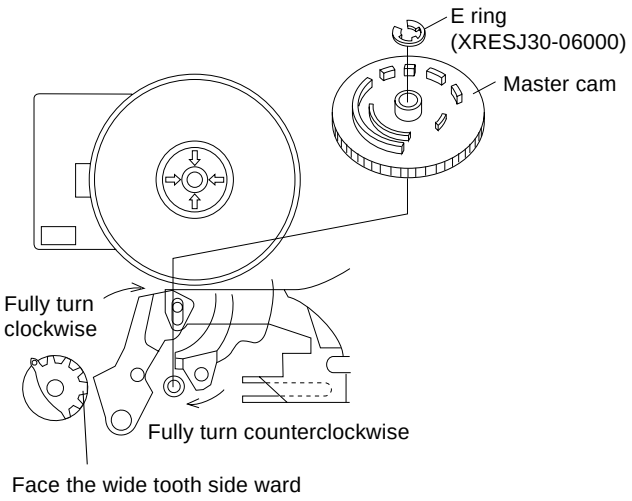
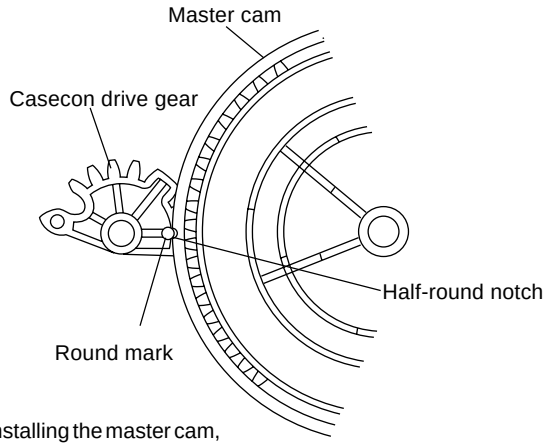


Figure 1-44-1.

Note:
See the figure below for the phase matching between the master cam and the casecon drive gear.

3. Finally fix with the E ring.



When installing the master cam, align the casecon drive gear round mark with the half-round notch of master cam.

Figure 1-44-2.

REPLACEMENT OF LOADING MOTOR

- **Removal**

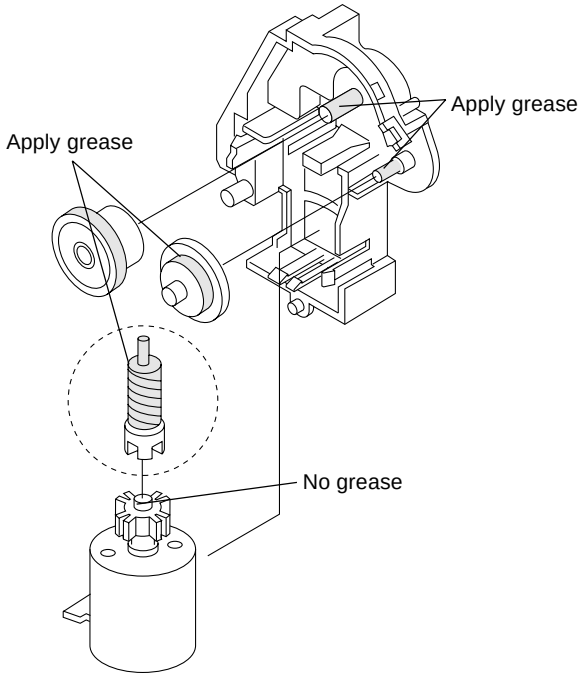


Figure 1-45.

- **Replacement**

1. Remove the loading motor, and install the replacement loading motor as shown below.

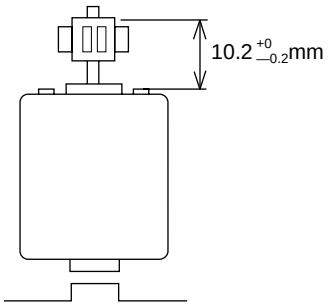


Figure 1-46.

The loading motor pressing-in must be less than 14.7 N (15 gf).
Adjust the distance between motor and pulley to 10.2 $^{+0}_{-0.2}$ mm).

ASSEMBLY OF CASSETTE HOUSING

1. Drive Gear and R Drive angle ass'y

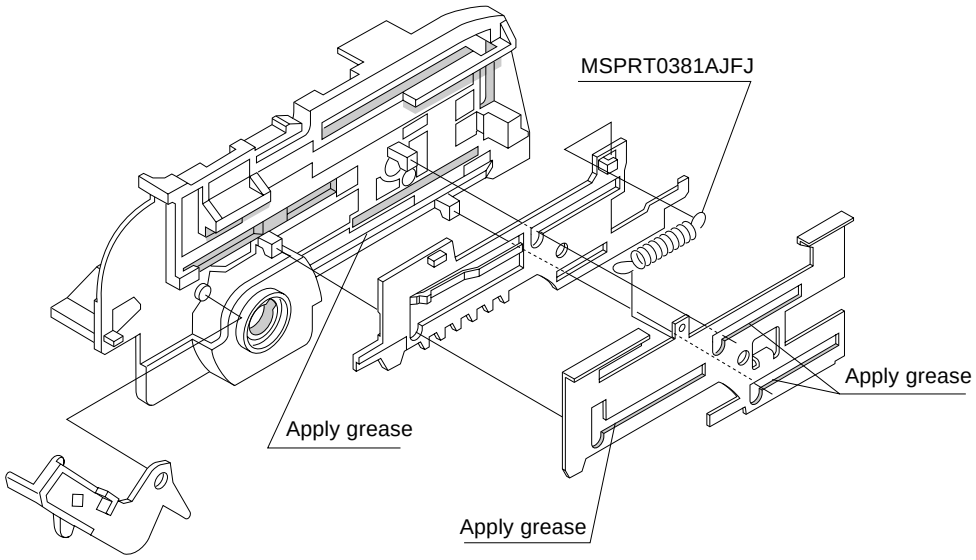


Figure 1-47.

2. Synchro Gear, Drive Gear L and Drive Gear R

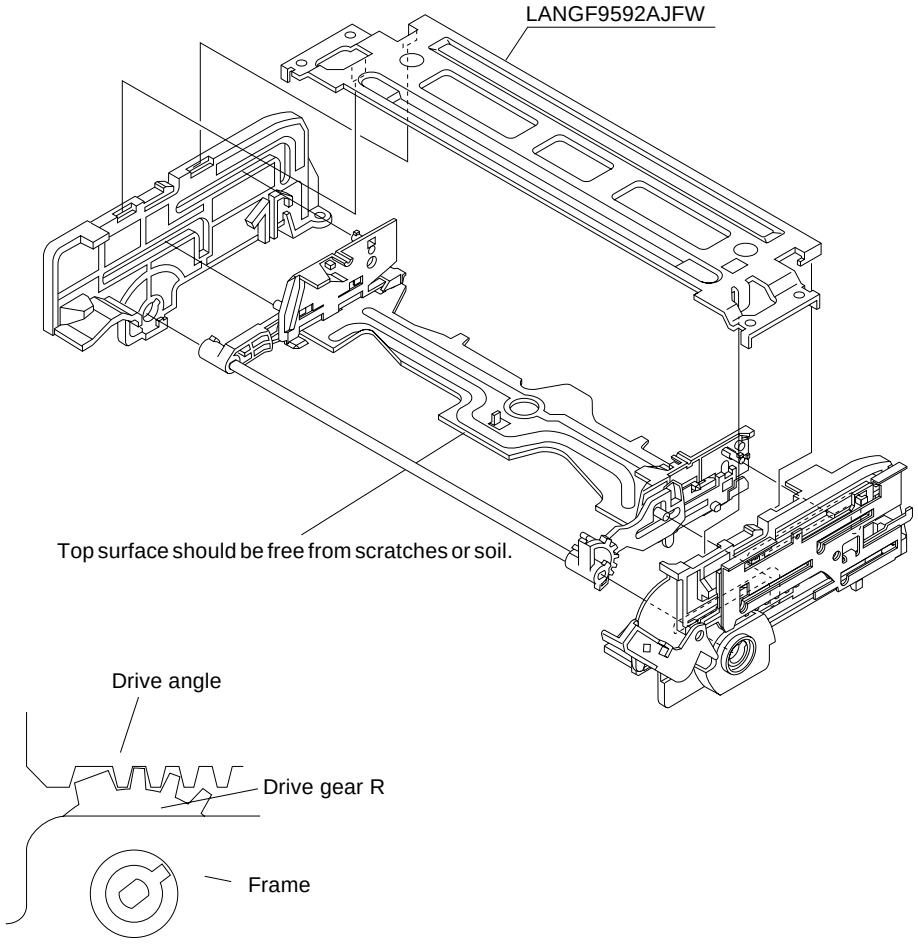


Figure 1-48.

ADJUSTMENT OF THE VCR ELECTRICAL CIRCUITRY

Notes:

- Before the adjustment:
  Electrical adjustments described here are often required after replacement of electronic components and mechanical parts such as video heads.
  Check that the mechanism and all electric components are in good working condition prior to the adjustments, otherwise adjustments can not be completed.

- Instruments required:
  ◎ Dual trace oscilloscope
  ◎ Blank video cassette tape
  ◎ Colour bar generator
  ◎ Alignment tape (VROUBZFS)
- **Adjustment of the VCR should be done in the TV/VCR combinated style. But there is a function the able to cut off high voltage of TV. Namely, you can check only VCR part by taking the plug of P1003 off the socket SC1003 in Main PWB (PWB-A). Therefore you can use this function on the occasion of checking and adjustment of VCR part.**

SERVO CIRCUIT ADJUSTMENT

ADJUSTMENT OF HEAD SWITCHING POINT

Measuring instrument	Dual trace oscilloscope
Mode	Playback
Cassette	Alignment tape(VROUBZFS)
Test point	TP2201 (Video Out) to CH1 TP3302 (Trigger) to CH2
Control	Remote Control
Specification	5.5 ± 0.5H (lines)

1. Put the set in the SERVICE mode by turning the power on with the STAND BY/POWER button while the CH ▲ button on the front pannel is being pressed down more than 3 seconds.
2. Play the alignment tape (VROUBZFS), then press the PROG button on the remote control to turn the set into the adjustment mode for the head switching point.
   "TEST" is displayed on the screen, in the playback mode it means the set is in the adjusting mode for the head switching point.
3. Connect a dual trace oscilloscope to the test points TP2201 (Video out) and TP3302. (Trigger the oscilloscope with the head switching pulse on TP3302.)
4. Press the PLAY button of remote control to make the adjustment of the head switching point, then the leading edge of the head switching pulse is automatically set 5.5H (line) ahead of the vertical sync as shown in Figure 2-1 and the adjustment data is memorized in the E^2P-ROM IC.
5. Then press the STOP button to stop the tape, and turn the power off to cancel the SERVICE mode.

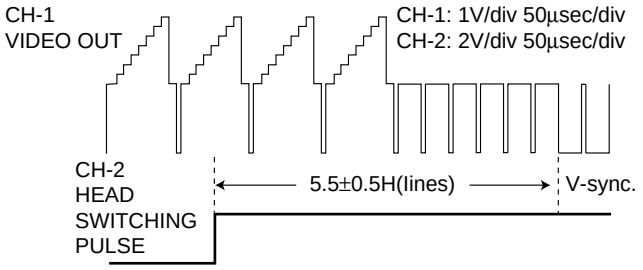


Figure 2-1.

Notes:

① Data of this adjustment is memorized to the E^2P-ROM IC on the main PWB when the head switching point is automatically adjusted.

② In order to set the unit in the adjusting mode for the head switching point, pressing the PROG button is needed at the playback in the SERVICE mode.

■ Test points layout.

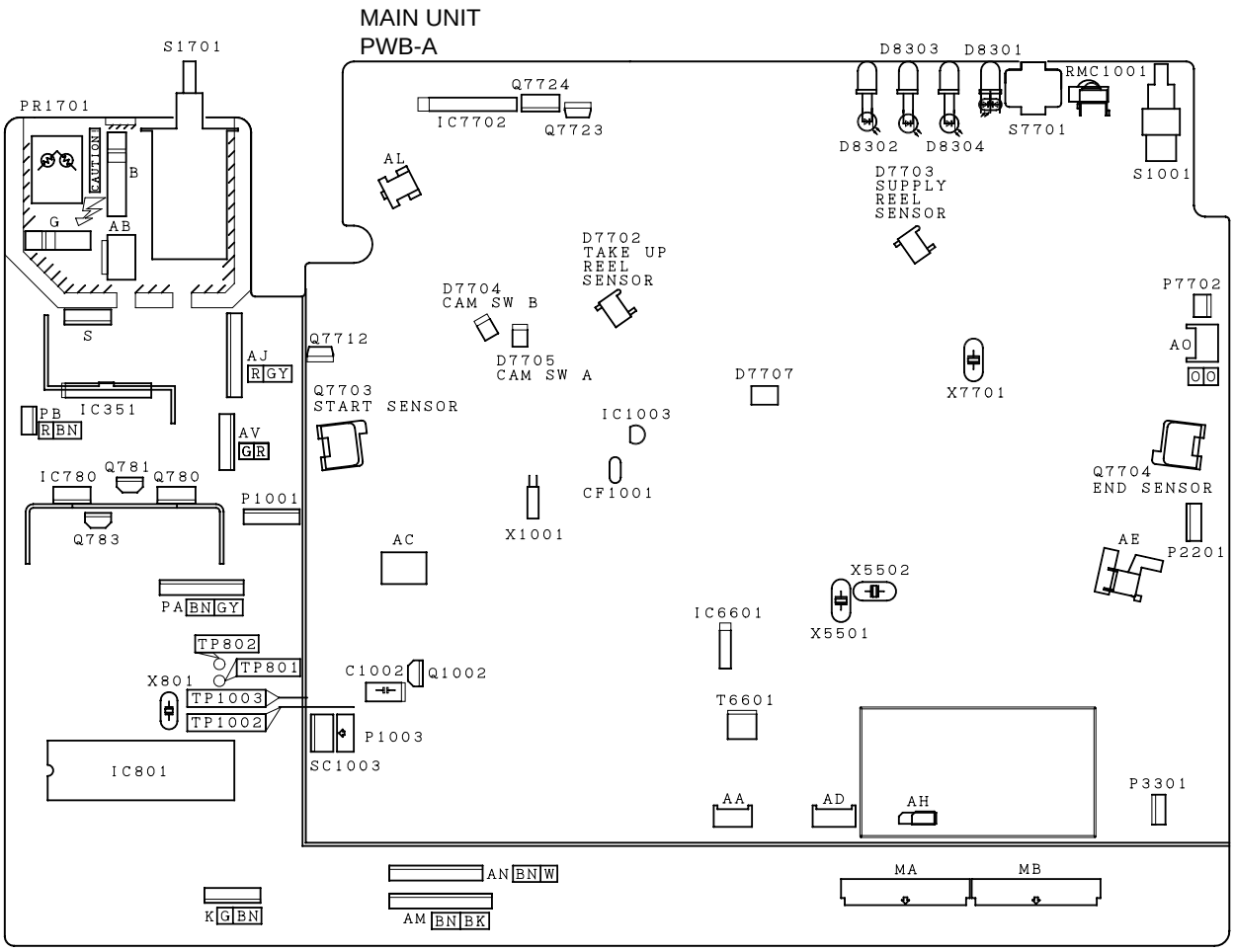


Figure 2-2.

Adjustment of PAL System LP still picture vertical sync

Measuring instrument	Monitor TV
Mode	Still picture playback
Input signal	PAL LP self-recording tape
Test point	Monitor screen
Adjusting point	CH ▲ / ▼ (TR ⊕/ ⊖) buttons.
Specification	No Vertical jitter.

1. Playback the LP Self-recorded tape in the PAL System still mode.
2. Using the CH ▲ / ▼ (TR ⊕/ ⊖) buttons on the remote control, make adjustment so that jitter becomes minimum.
3. Now press the STOP button to stop the tape.

Adjustment of NTSC System EP still picture vertical sync

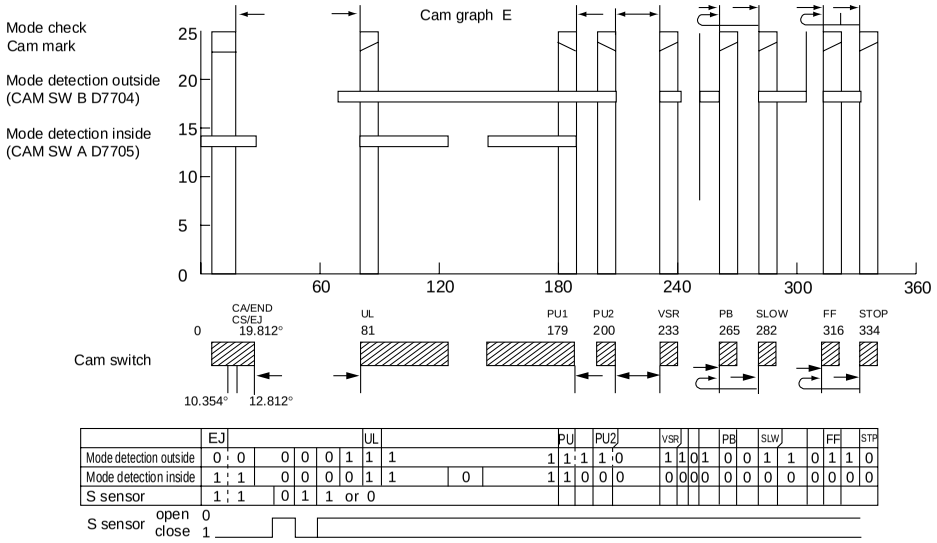
Measuring instrument	Monitor TV
Mode	Still picture playback
Input signal	NTSC EP self-recording tape
Test point	Monitor screen
Adjusting point	CH ▲ / ▼ (TR ⊕/ ⊖) buttons.
Specification	No Vertical jitter.

1. Playback the EP Self-recorded tape in the NTSC System still mode.
2. Using the CH ▲ / ▼ (TR ⊕/ ⊖) buttons on the remote control, make adjustment so that jitter becomes minimum.
3. Now press the STOP button to stop the tape.

MECHANISM OPERATION FLOWCHART AND TROUBLESHOOTING GUIDE

MECHANISM OPERATION FLOWCHART

G mechanical timing

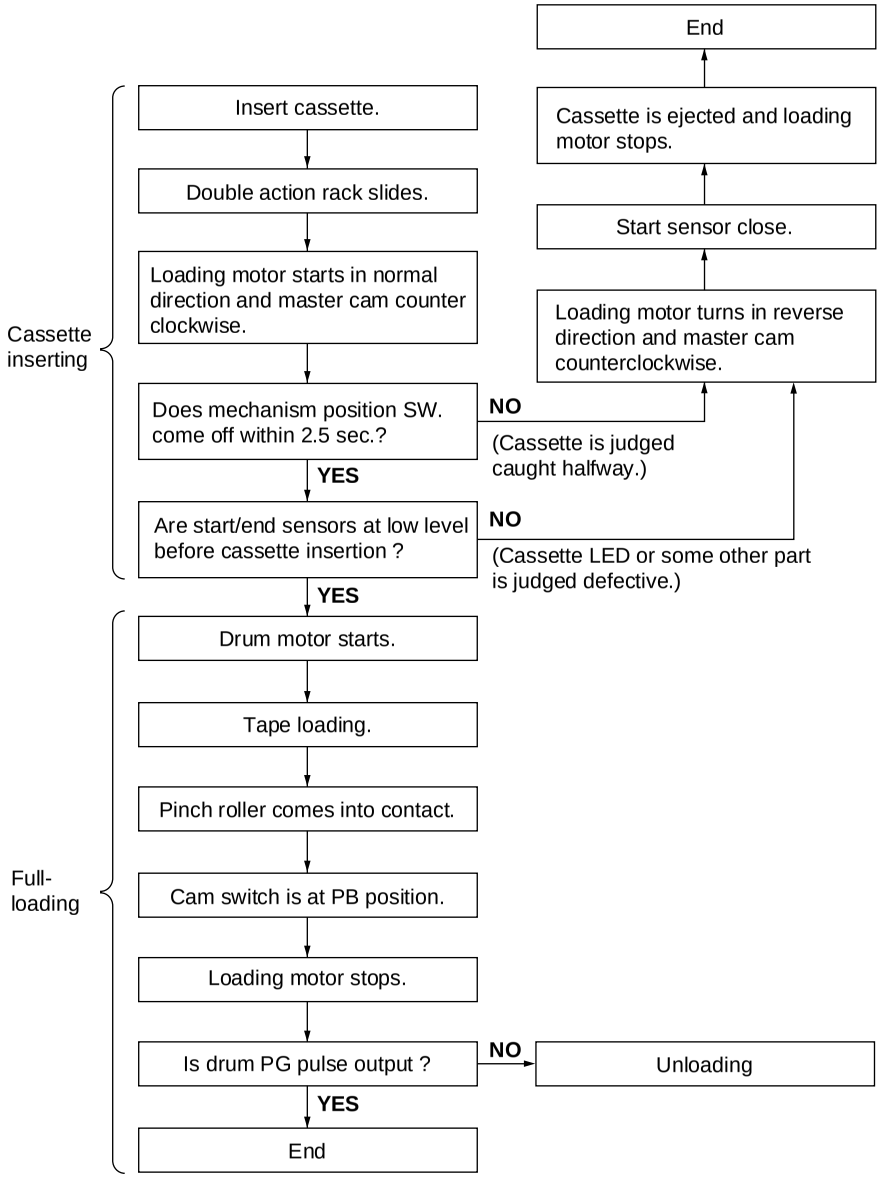


	EJ						UL			PU		PU2		VSR			PB		SLW		FF		STP
Mode detection outside	0	0	0	0	0	1	1	1		1	1	1	0	1	1	0	1	0	0	1	1	0	1	1	0
Mode detection inside	1	1	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S sensor	1	1	0	1	1 or 0																				

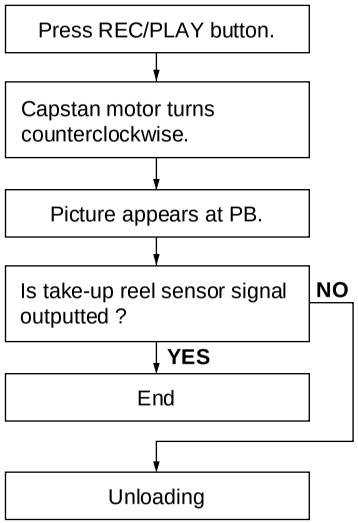
S sensor open 0
close 1

	Mode detection inside CAM SW A	Mode detection outside CAM SW B
CS/EJ	1	0
ULD	1	1
PU1	1	1
PU2	0	1
VSR	0	1
PB	0	0
SLOW	0	1
FF	0	1
STOP	0	0

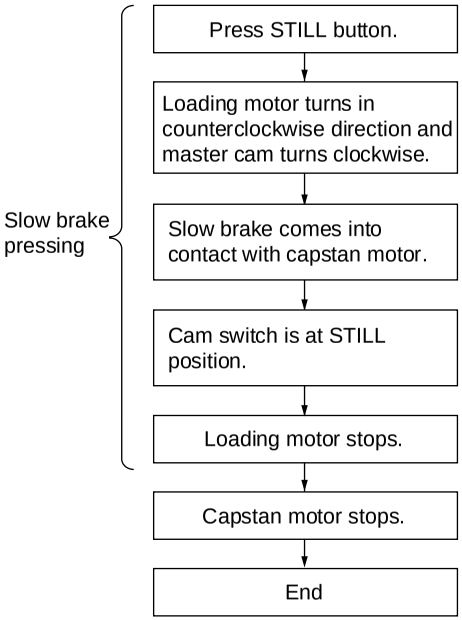
CASSETTE INSERTION → STOP


Cassette inserting
Insert cassette.
Double action rack slides.
Loading motor starts in normal direction and master cam counter clockwise.
Does mechanism position SW. come off within 2.5 sec.?
NO
(Cassette is judged caught halfway.)
YES
Are start/end sensors at low level before cassette insertion ?
NO
(Cassette LED or some other part is judged defective.)
YES
Full-loading
Drum motor starts.
Tape loading.
Pinch roller comes into contact.
Cam switch is at PB position.
Loading motor stops.
Is drum PG pulse output ?
NO
Unloading
YES
End
End
Cassette is ejected and loading motor stops.
Start sensor close.
Loading motor turns in reverse direction and master cam counterclockwise.

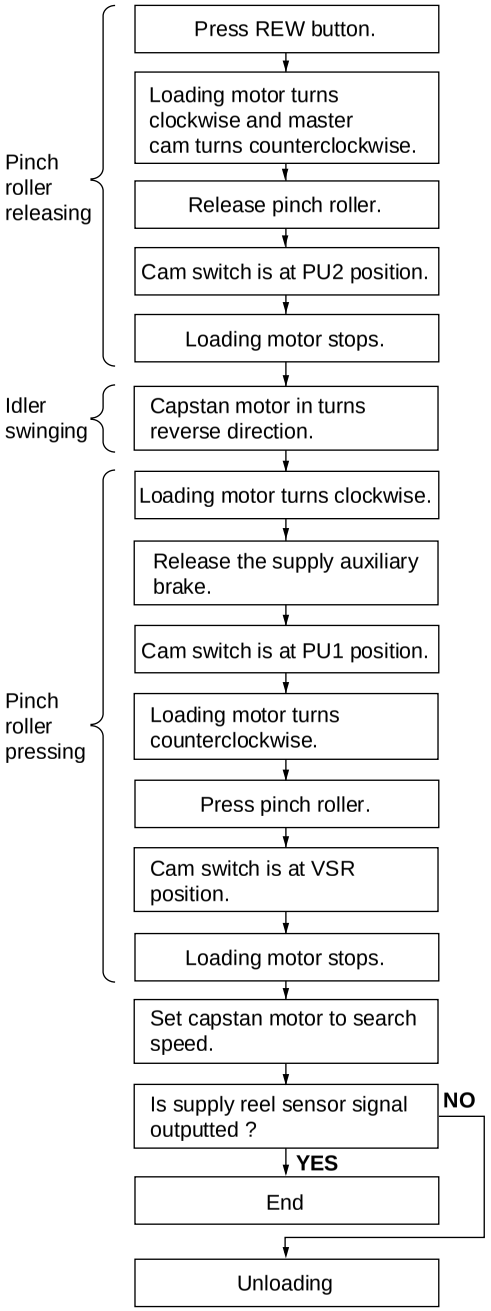
STOP → REC/PLAY



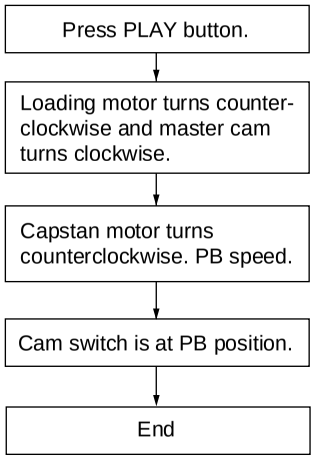
PLAY → STILL


Slow brake pressing
Press STILL button.
Loading motor turns in counterclockwise direction and master cam turns clockwise.
Slow brake comes into contact with capstan motor.
Cam switch is at STILL position.
Loading motor stops.
Capstan motor stops.
End

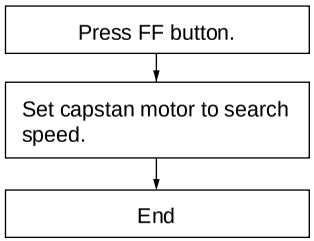
PLAY → VSR



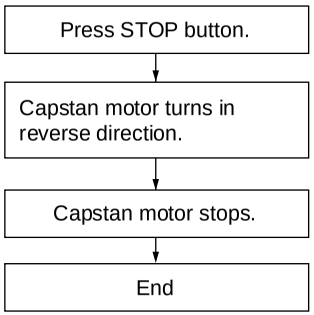
VSR → PLAY


Press PLAY button.
Loading motor turns counter-clockwise and master cam turns clockwise.
Capstan motor turns counterclockwise. PB speed.
Cam switch is at PB position.
End

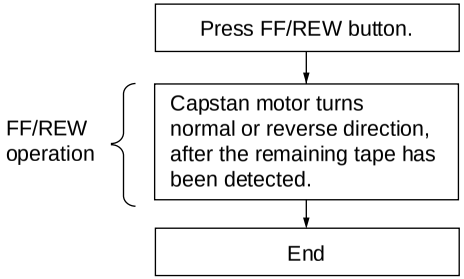
PLAY → VSF



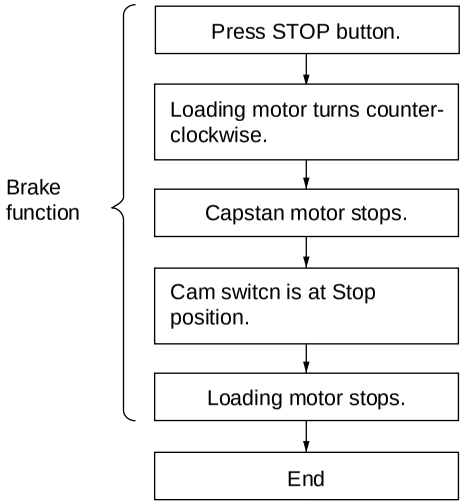
REC/PLAY → STOP



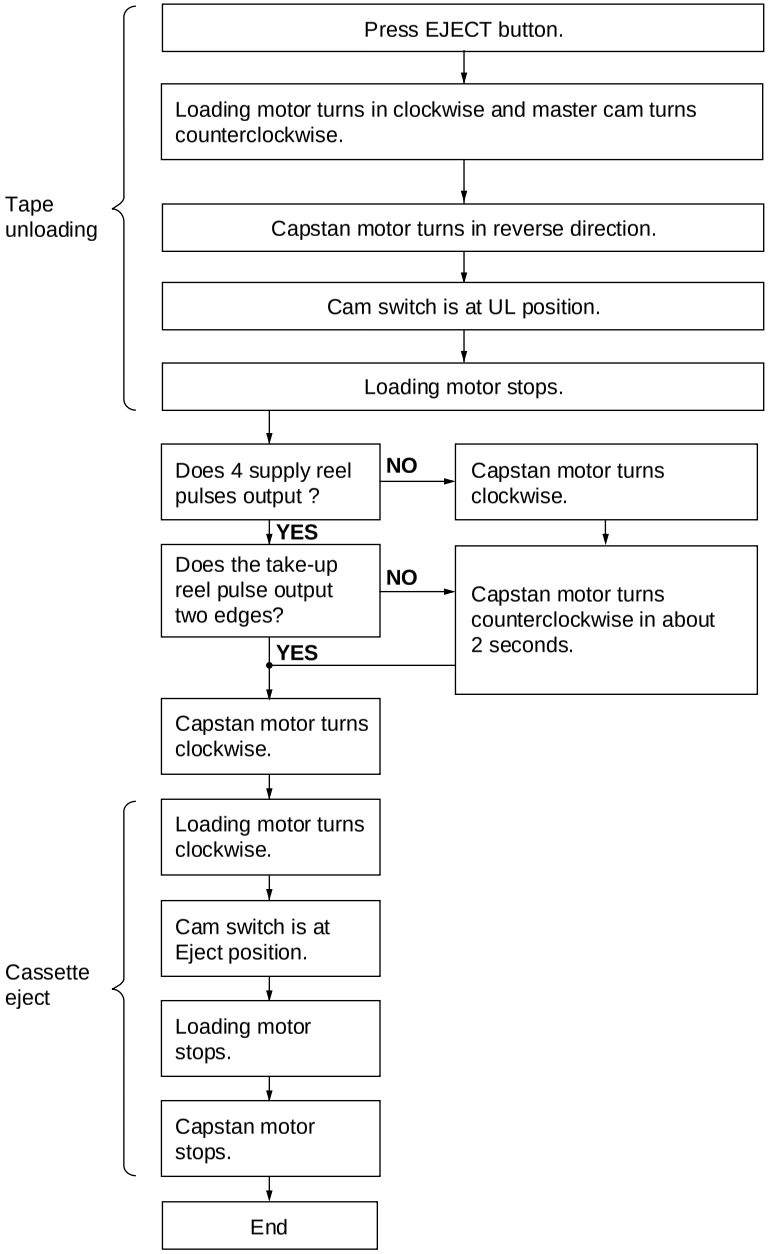
STOP → FF/REW


Press FF/REW button.
FF/REW operation
Capstan motor turns normal or reverse direction, after the remaining tape has been detected.
End

FF/REW → STOP

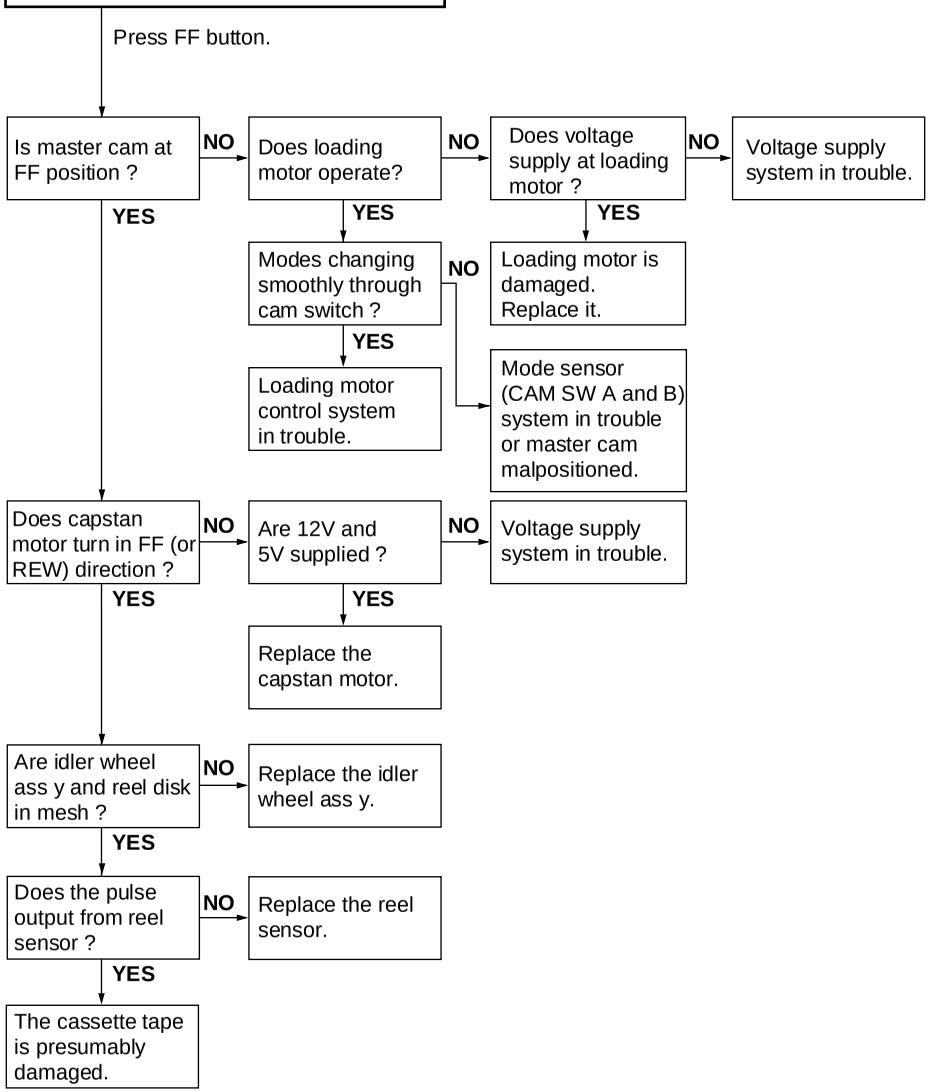


STOP → CASSETTE EJECT

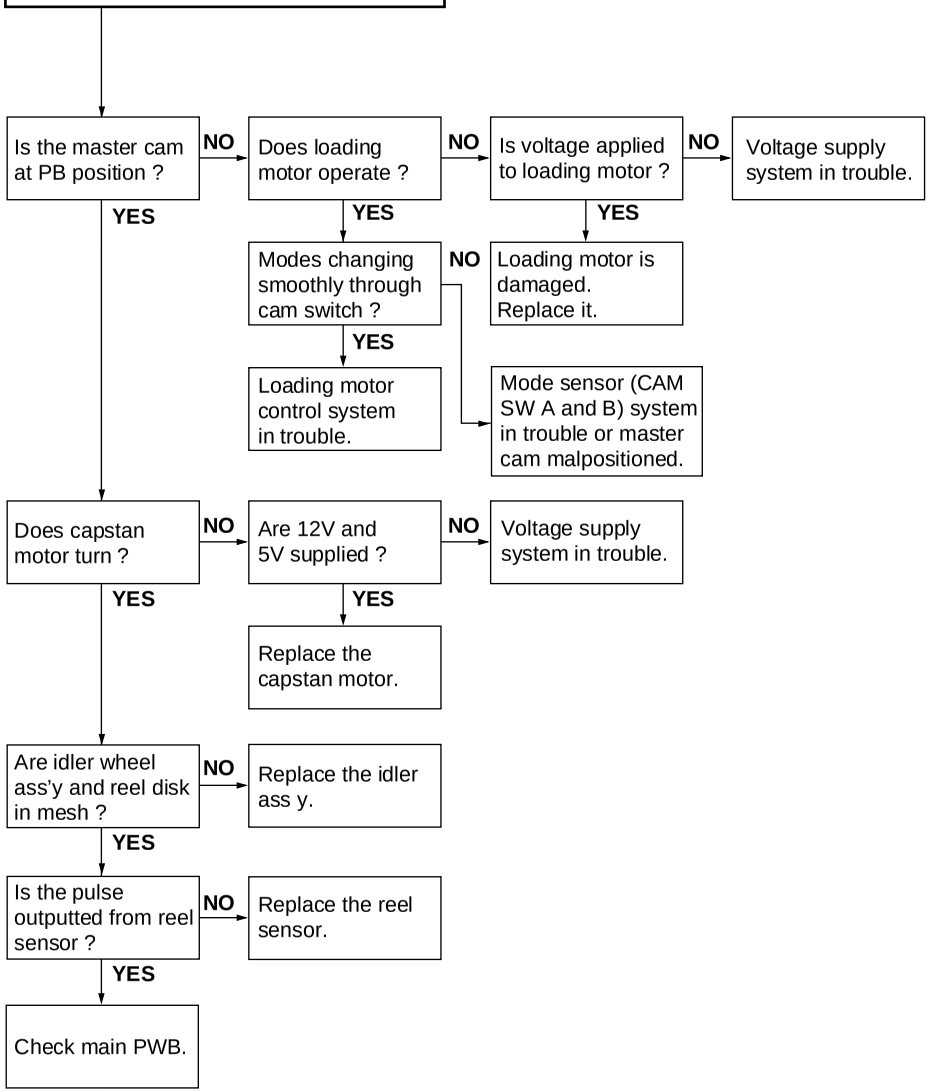

Press EJECT button.
Tape unloading
Loading motor turns in clockwise and master cam turns counterclockwise.
Capstan motor turns in reverse direction.
Cam switch is at UL position.
Loading motor stops.
Does 4 supply reel pulses output ?
NO
Capstan motor turns clockwise.
YES
Does the take-up reel pulse output two edges?
NO
Capstan motor turns counterclockwise in about 2 seconds.
YES
Capstan motor turns clockwise.
Cassette eject
Loading motor turns clockwise.
Cam switch is at Eject position.
Loading motor stops.
Capstan motor stops.
End

MECHANISM TROUBLESHOOTING

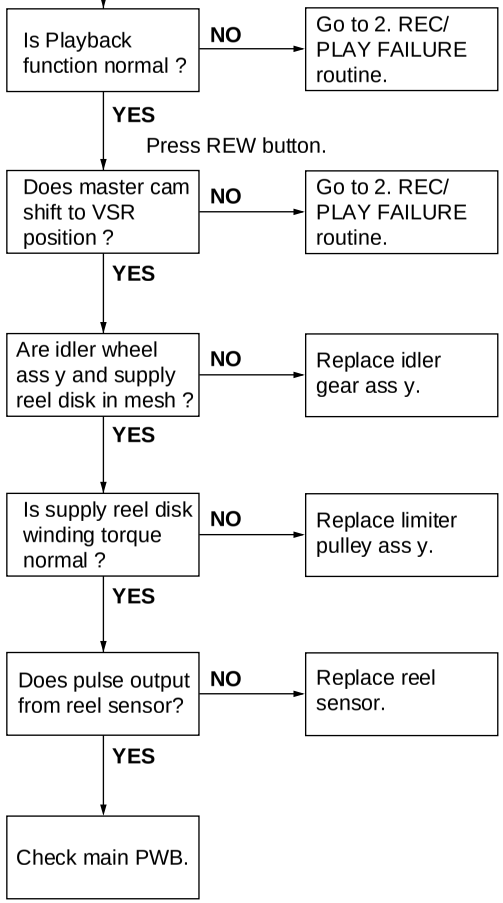
1. FF/REW FAILURE (NO TAPE WINDING)


Press FF button.
Is master cam at FF position ?
NO
Does loading motor operate?
NO
Does voltage supply at loading motor ?
NO
Voltage supply system in trouble.
YES
YES
YES
Modes changing smoothly through cam switch ?
NO
Loading motor is damaged. Replace it.
YES
Loading motor control system in trouble.
Mode sensor (CAM SW A and B) system in trouble or master cam malpositioned.
Does capstan motor turn in FF (or REW) direction ?
NO
Are 12V and 5V supplied ?
NO
Voltage supply system in trouble.
YES
YES
Replace the capstan motor.
Are idler wheel ass y and reel disk in mesh ?
NO
Replace the idler wheel ass y.
YES
Does the pulse output from reel sensor ?
NO
Replace the reel sensor.
YES
The cassette tape is presumably damaged.

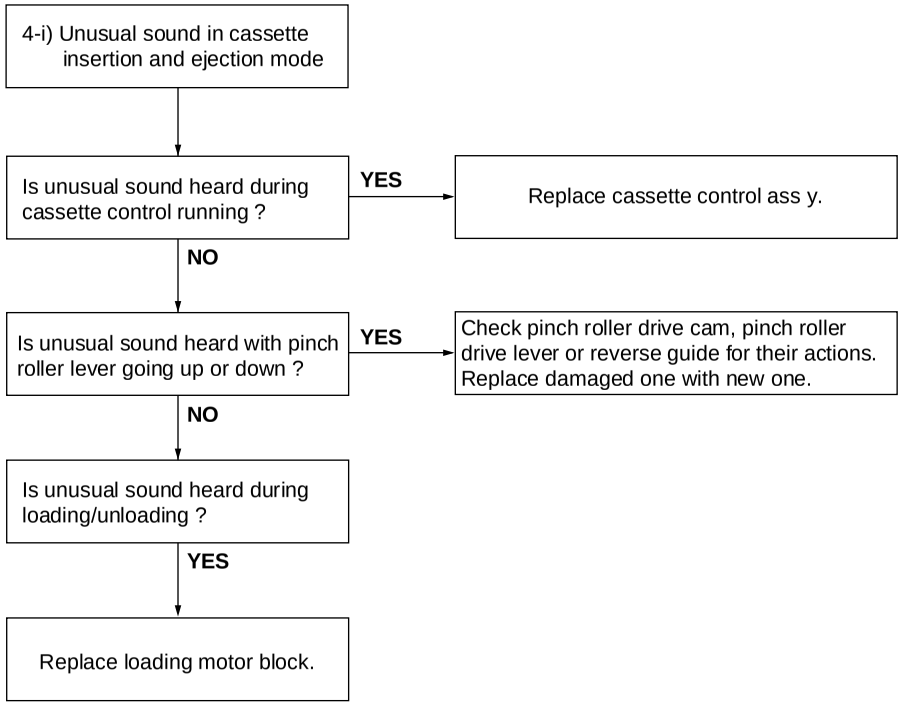
2. REC/PLAY FAILURE (MODE RELEASE)

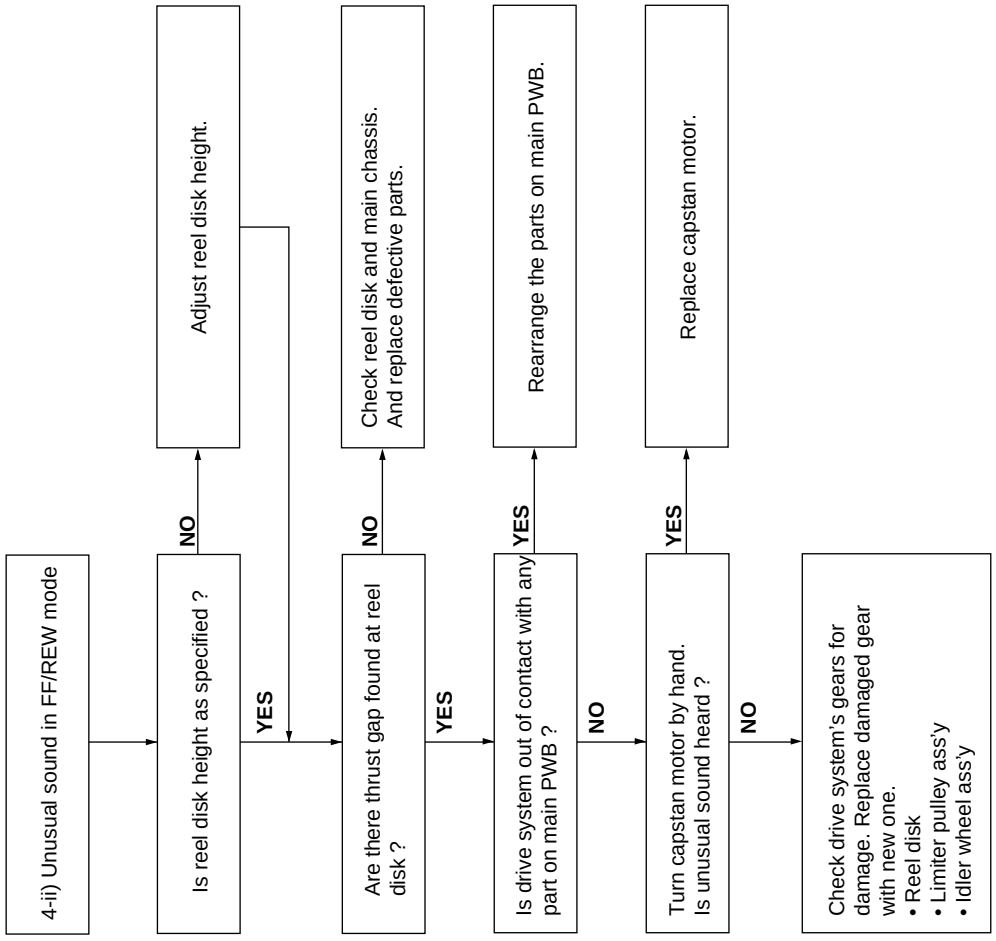


3. WINDING FAILURE AT VSR



4. UNUSUAL SOUND IN EACH MODE


4-i) Unusual sound in cassette insertion and ejection mode
Is unusual sound heard during cassette control running ?
YES
Replace cassette control ass y.
NO
Is unusual sound heard with pinch roller lever going up or down ?
YES
Check pinch roller drive cam, pinch roller drive lever or reverse guide for their actions. Replace damaged one with new one.
NO
Is unusual sound heard during loading/unloading ?
YES
Replace loading motor block.


4-ii) Unusual sound in FF/REV mode
Is reel disk height as specified ?
NO
Adjust reel disk height.
YES
Are there thrust gap found at reel disk ?
NO
Check reel disk and main chassis. And replace defective parts.
YES
Is drive system out of contact with any part on main PWB ?
YES
Rearrange the parts on main PWB.
NO
Turn capstan motor by hand. Is unusual sound heard ?
YES
Replace capstan motor.
NO
Check drive system's gears for damage. Replace damaged gear with new one.
• Reel disk
• Limiter pulley ass'y
• Idler wheel ass'y

ELECTRICAL TROUBLESHOOTING

VCR POWER TROUBLESHOOTING

FLOWCHART NO. 1-1

The VCR is dead. (No power)

Un plug the AC power cord. Replug it a few minutes later.

Is the fuse F1701 alright in the TUNER/DEF. PWB ?
- NO → Replace the fuse.
- YES ↓

Are the UR 12V and UR 8.5V lines normal in the MAIN PWB ?
- NO → Check short in the MAIN PWB. Check fuse resistor and transistor trouble of the power circuit in the power PWB.
- YES ↓

Is the AT 5V line normal ?
- NO → Check the AT 5V line, Q780 and D785.
- YES ↓

Are the AT 5V and GND lines properly connected with IC7701 ?
- NO → Check poor soldering.
- YES ↓

Is there oscillation at pins (38) and (39) of IC7701 ?
- NO → Check / Replace IC7701 and / or X7701.
- YES ↓

Does pin (43) of IC7701 change from "L" to "H" level after the AC cord is plugged in or/when the RESET button is pressed and then released ?
- NO → Check the signal line of sys-con reset all the way up to pin (60) of IC1001.
- YES ↓

Does pin (21) of IC7701 change from "L" to "H" level when the power button is pressed to turn the power on ? Is the PC 5V line normal?
- NO → Check power key input to IC1001 and serial datas/clocks between IC1001 and IC7701.
- YES ↓

Is the PC 5V line normal ?
- NO → Check Q781 and IC780 of PC9V line.
- YES ↓

Check wire harness to mechanism and the sensor inputs to IC7701 from mechanism. (CAM Switches, start/end and reel sensors) Replace the fuse.

CASSETTE CONTROL TROUBLESHOOTING

FLOWCHART NO. 1-2

A cassette tape is not taken in.

Is the cassette housing distored ?
- YES → Fix or replace the cassette housing.
- NO ↓

Does the start sensor cover become open when the cassette tape is inserted ?
- NO → Check the start sensor cover.
- YES ↓

Does the start sensor pin (2) of IC7701 go to "L" level when the cassette tape is inserted ?
- NO → Check the start sensor and the way up to pin (2) of IC 7701.
- YES ↓

Does pin (5) of IC7702 go to "H" level (about 1.8V) when the cassete tape is inserted ?
- NO → Check pin (12) of IC7701 and all the way up to pin (5) of IC7702.
- YES ↓

Does pin (2) of IC7702 go to about 11V when the cassette tape is inserted ?
- NO → Check IC7702 and UR12V line.
- YES ↓

Is the correct voltage at the loading motor terminal when the cassette tape is inserted ?
- NO → Check between IC7702 and the loading motor.
- YES ↓

Check and replace the loading motor .

A cassette tape is taken in, but ejected at once.

FLOWCHART NO. 1-3

Does start sensor pulse at pin (2) of IC7701 change from "L" to "H" level when the cassette tape is loaded ?
- NO → Check the start sensor and all the way up to IC7701.
- YES ↓

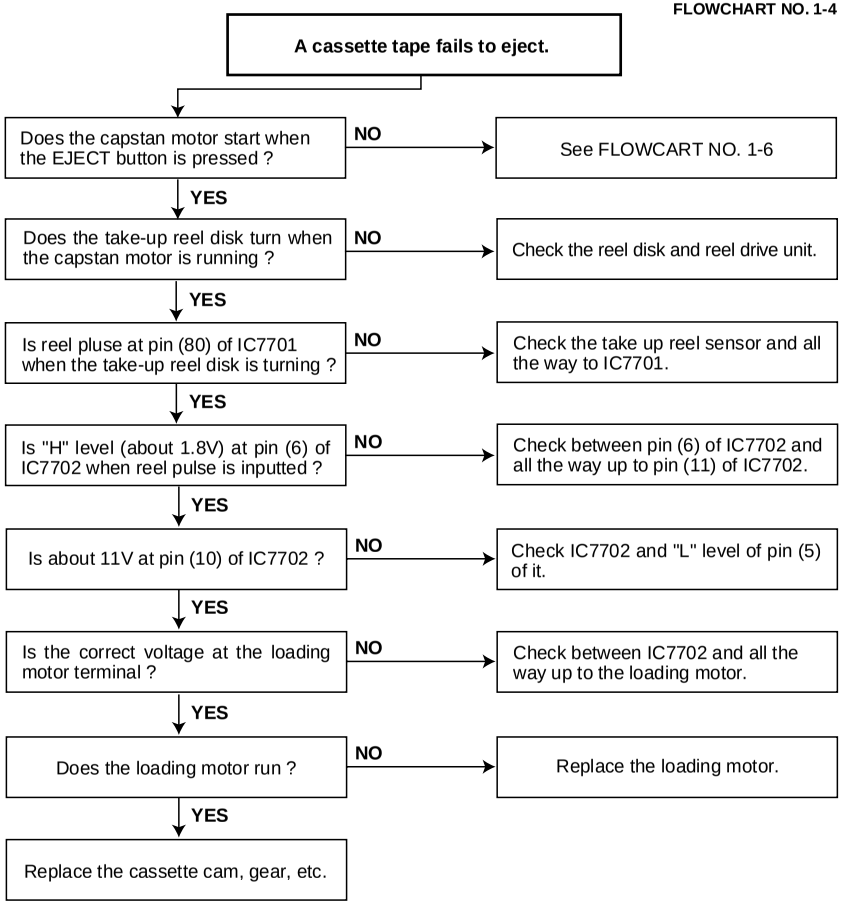
Does end sensor pulse at pin (3) of IC7701 change from "L" to "H" level when the cassette tape is loaded ?
- NO → Check the end sensor and all the way up to IC7701.
- YES ↓

Do the cam switches A and B operate normally when the cassette tape is loaded ? (at pins (100) and (1))(refer to MECHANISM flowchart)
- NO → Check cam switches and all the way up to IC7701.
- YES ↓

Replace IC7701.

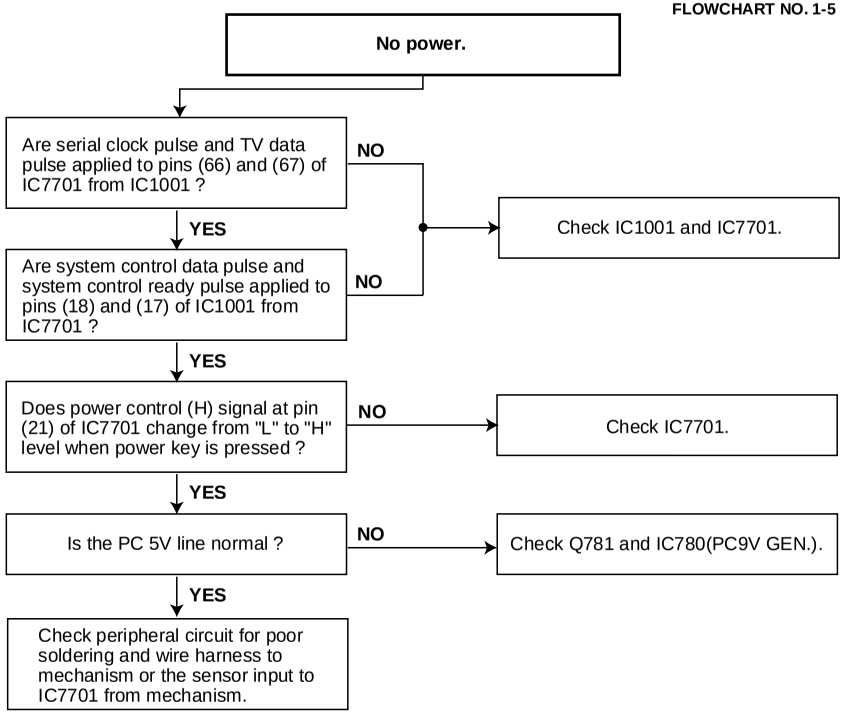
LOADING MOTOR AND EJECT TROUBLESHOOTING

FLOWCHART NO. 1-4


A cassette tape fails to eject.
Does the capstan motor start when the EJECT button is pressed ?
NO
See FLOWCART NO. 1-6
YES
Does the take-up reel disk turn when the capstan motor is running ?
NO
Check the reel disk and reel drive unit.
YES
Is reel pluse at pin (80) of IC7701 when the take-up reel disk is turning ?
NO
Check the take up reel sensor and all the way to IC7701.
YES
Is "H" level (about 1.8V) at pin (6) of IC7702 when reel pulse is inputted ?
NO
Check between pin (6) of IC7702 and all the way up to pin (11) of IC7702.
YES
Is about 11V at pin (10) of IC7702 ?
NO
Check IC7702 and "L" level of pin (5) of it.
YES
Is the correct voltage at the loading motor terminal ?
NO
Check between IC7702 and all the way up to the loading motor.
YES
Does the loading motor run ?
NO
Replace the loading motor.
YES
Replace the cassette cam, gear, etc.

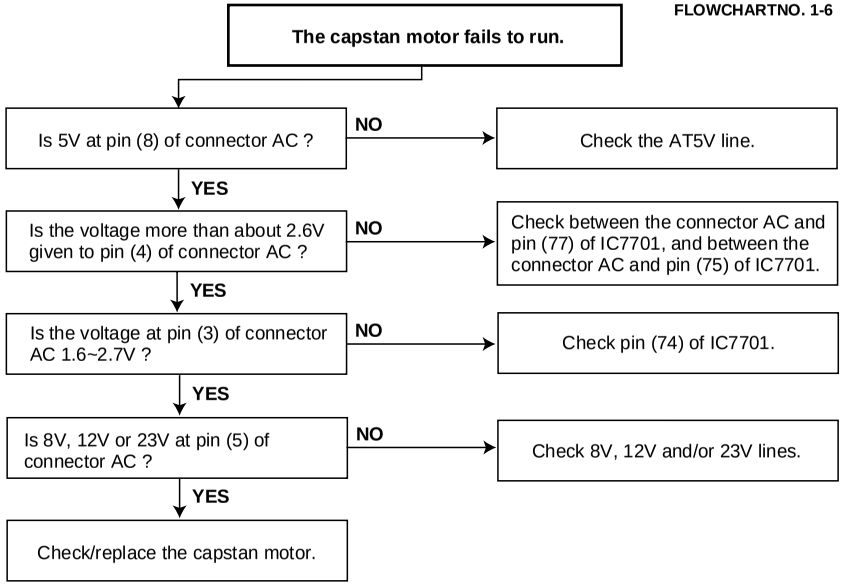
SYSTEM CONTROL TROUBLESHOOTING

FLOWCHART NO. 1-5


No power.
Are serial clock pulse and TV data pulse applied to pins (66) and (67) of IC7701 from IC1001 ?
NO
YES
Are system control data pulse and system control ready pulse applied to pins (18) and (17) of IC1001 from IC7701 ?
NO
Check IC1001 and IC7701.
YES
Does power control (H) signal at pin (21) of IC7701 change from "L" to "H" level when power key is pressed ?
NO
Check IC7701.
YES
Is the PC 5V line normal ?
NO
Check Q781 and IC780(PC9V GEN.).
YES
Check peripheral circuit for poor soldering and wire harness to mechanism or the sensor input to IC7701 from mechanism.

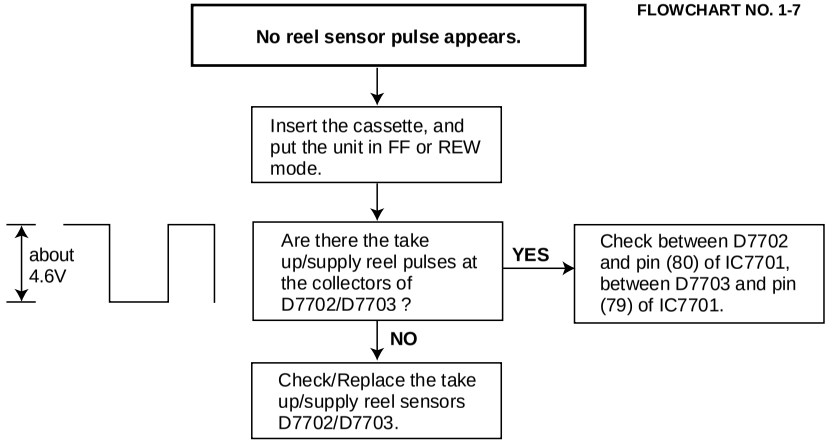
CAPSTAN MOTOR TROUBLESHOOTING

FLOWCHARTNO. 1-6


The capstan motor fails to run.
Is 5V at pin (8) of connector AC ?
NO
Check the AT5V line.
YES
Is the voltage more than about 2.6V given to pin (4) of connector AC ?
NO
Check between the connector AC and pin (77) of IC7701, and between the connector AC and pin (75) of IC7701.
YES
Is the voltage at pin (3) of connector AC 1.6~2.7V ?
NO
Check pin (74) of IC7701.
YES
Is 8V, 12V or 23V at pin (5) of connector AC ?
NO
Check 8V, 12V and/or 23V lines.
YES
Check/replace the capstan motor.

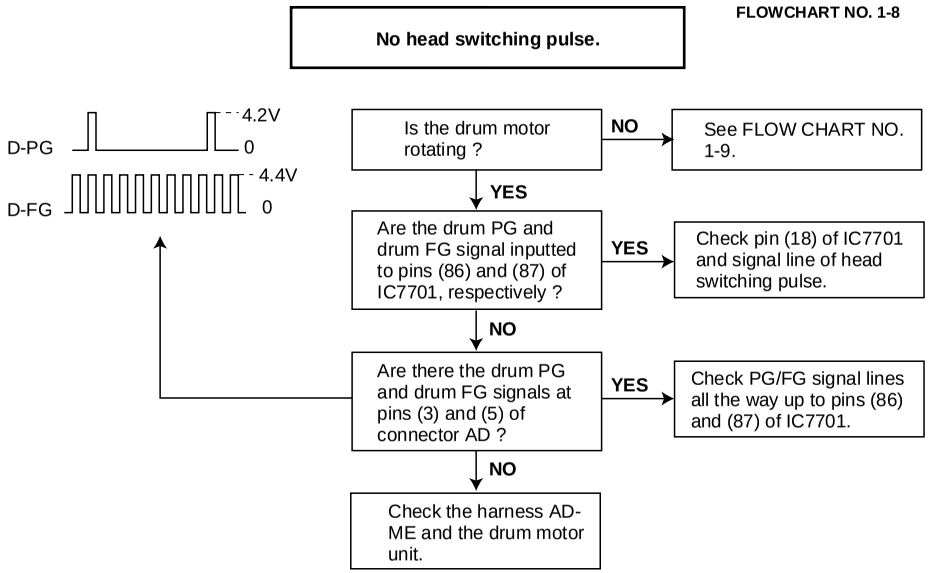
TAKE-UP REEL PULSE GENERATOR TROUBLESHOOTING

FLOWCHART NO. 1-7


No reel sensor pulse appears.
Insert the cassette, and put the unit in FF or REW mode.
about 4.6V
Are there the take up/supply reel pulses at the collectors of D7702/D7703 ?
YES
Check between D7702 and pin (80) of IC7701, between D7703 and pin (79) of IC7701.
NO
Check/Replace the take up/supply reel sensors D7702/D7703.

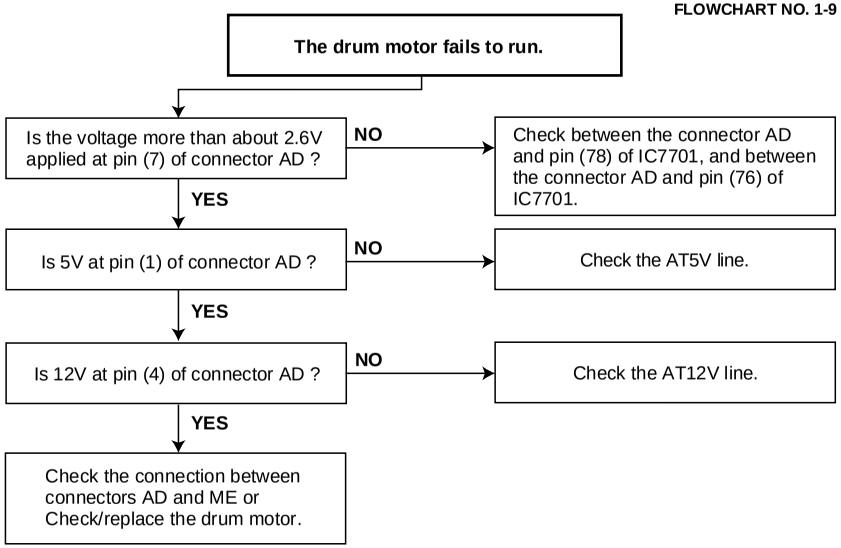
HEAD SWITCHING PULSE TROUBLESHOOTING

FLOWCHART NO. 1-8

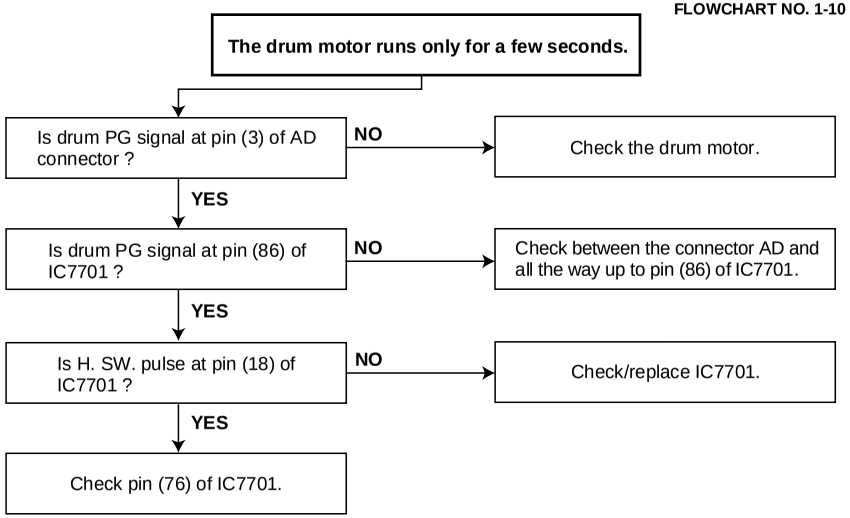

No head switching pulse.
D-PG
4.2V
0
D-FG
4.4V
0
Is the drum motor rotating ?
NO
See FLOW CHART NO. 1-9.
YES
Are the drum PG and drum FG signal inputted to pins (86) and (87) of IC7701, respectively ?
YES
Check pin (18) of IC7701 and signal line of head switching pulse.
NO
Are there the drum PG and drum FG signals at pins (3) and (5) of connector AD ?
YES
Check PG/FG signal lines all the way up to pins (86) and (87) of IC7701.
NO
Check the harness AD-ME and the drum motor unit.

DRUM MOTOR TROUBLESHOOTING

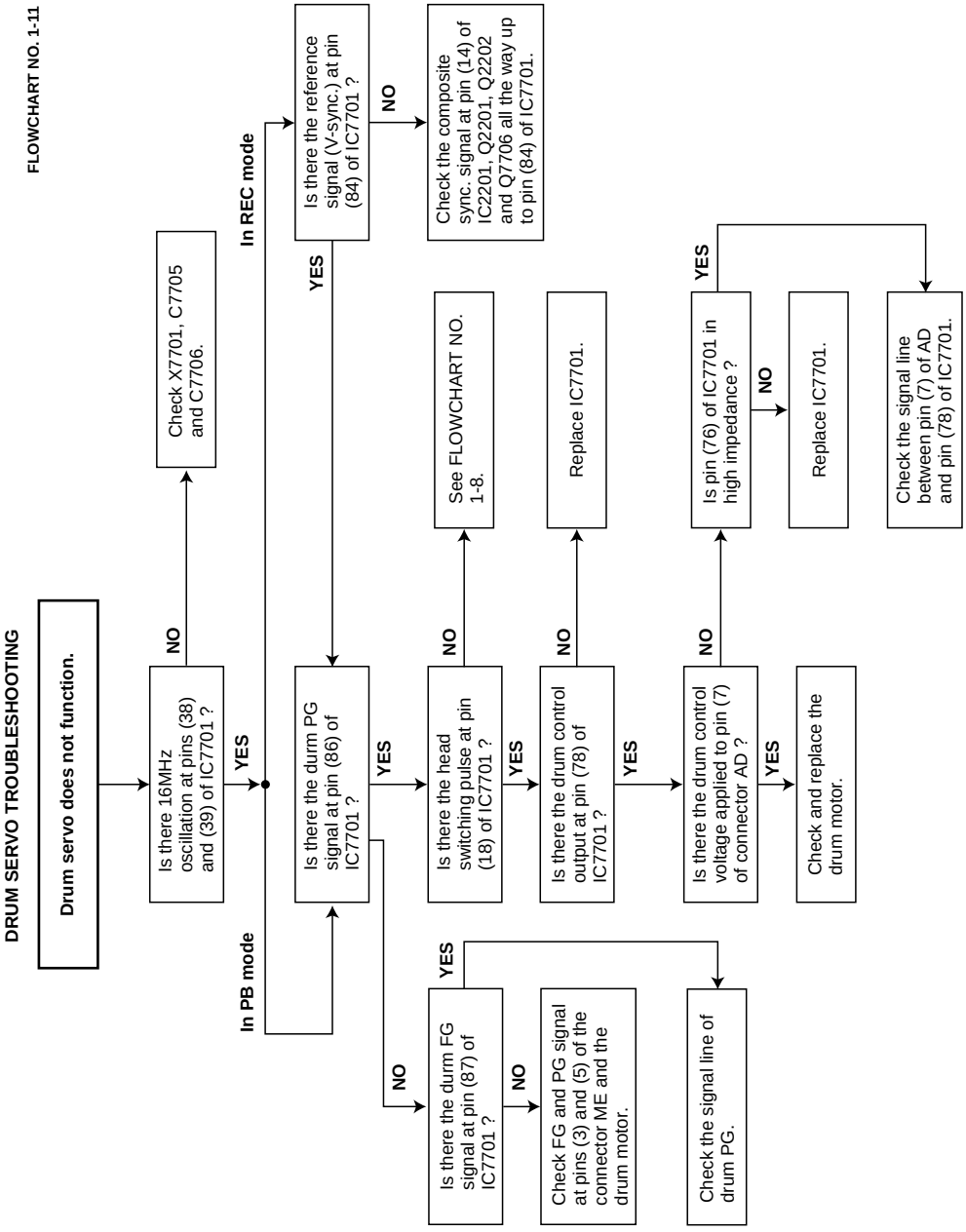
FLOWCHART NO. 1-9


The drum motor fails to run.
Is the voltage more than about 2.6V applied at pin (7) of connector AD ?
NO
Check between the connector AD and pin (78) of IC7701, and between the connector AD and pin (76) of IC7701.
YES
Is 5V at pin (1) of connector AD ?
NO
Check the AT5V line.
YES
Is 12V at pin (4) of connector AD ?
NO
Check the AT12V line.
YES
Check the connection between connectors AD and ME or Check/replace the drum motor.

FLOWCHART NO. 1-10

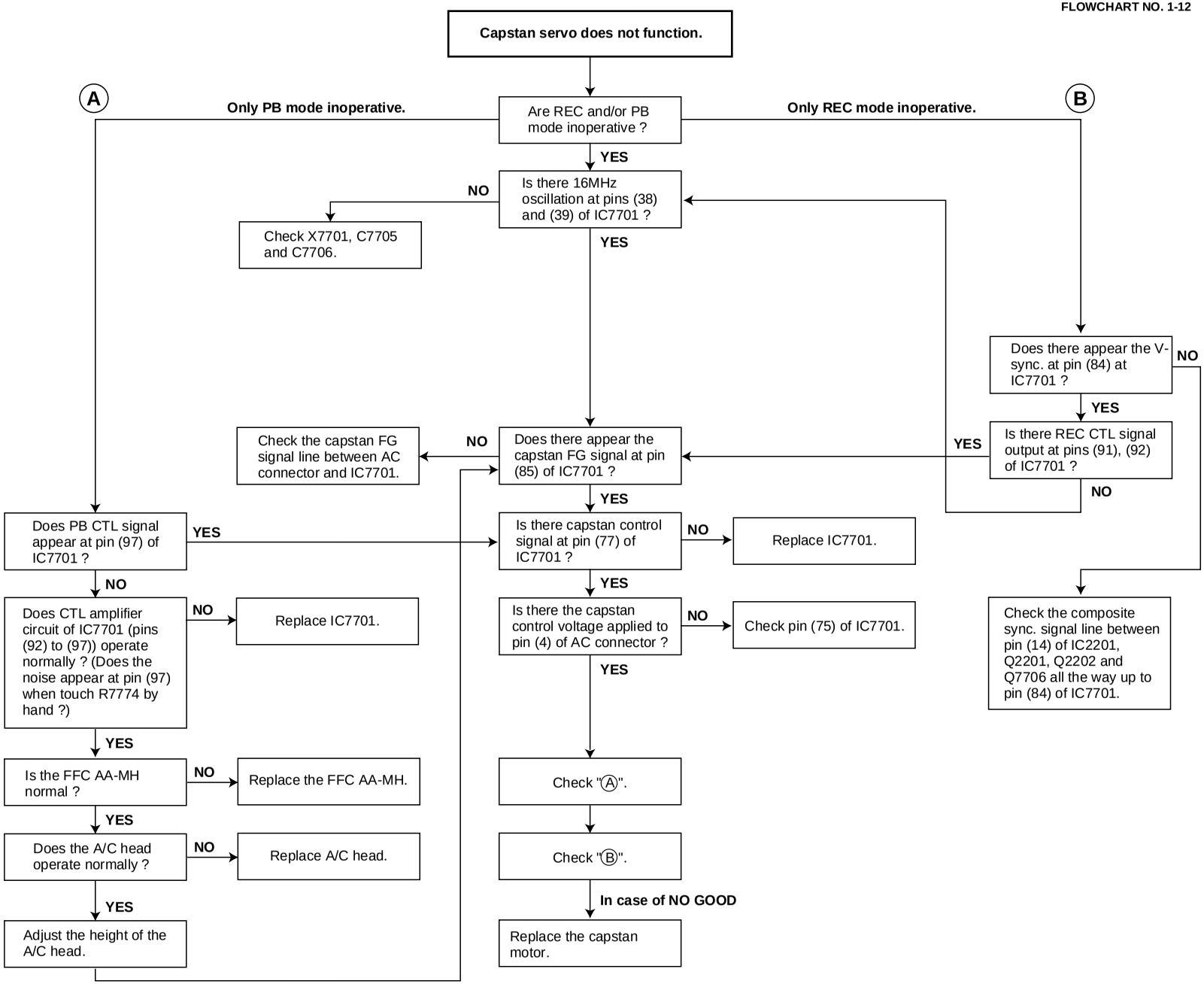

The drum motor runs only for a few seconds.
Is drum PG signal at pin (3) of AD connector ?
NO
Check the drum motor.
YES
Is drum PG signal at pin (86) of IC7701 ?
NO
Check between the connector AD and all the way up to pin (86) of IC7701.
YES
Is H. SW. pulse at pin (18) of IC7701 ?
NO
Check/replace IC7701.
YES
Check pin (76) of IC7701.

FLOWCHART NO. 1-11


DRUM SERVO TROUBLESHOOTING
Drum servo does not function.
Is there 16MHz oscillation at pins (38) and (39) of IC7701 ?
NO
Check X7701, C7705 and C7706.
YES
In PB mode
In REC mode
Is there the durm PG signal at pin (86) of IC7701 ?
YES
Is there the reference signal (V-sync.) at pin (84) of IC7701 ?
NO
Check the composite sync. signal at pin (14) of IC2201, Q2201, Q2202 and Q7706 all the way up to pin (84) of IC7701.
NO
Is there the head switching pulse at pin (18) of IC7701 ?
YES
See FLOWCHART NO. 1-8.
NO
Is there the drum control output at pin (78) of IC7701 ?
YES
Replace IC7701.
NO
Is there the drum control voltage applied to pin (7) of connector AD ?
YES
Is pin (76) of IC7701 in high impedance ?
YES
NO
Replace IC7701.
Check and replace the drum motor.
Check the signal line between pin (7) of AD and pin (78) of IC7701.
NO
Is there the durm FG signal at pin (87) of IC7701 ?
YES
NO
Check FG and PG signal at pins (3) and (5) of the connector ME and the drum motor.
Check the signal line of drum PG.

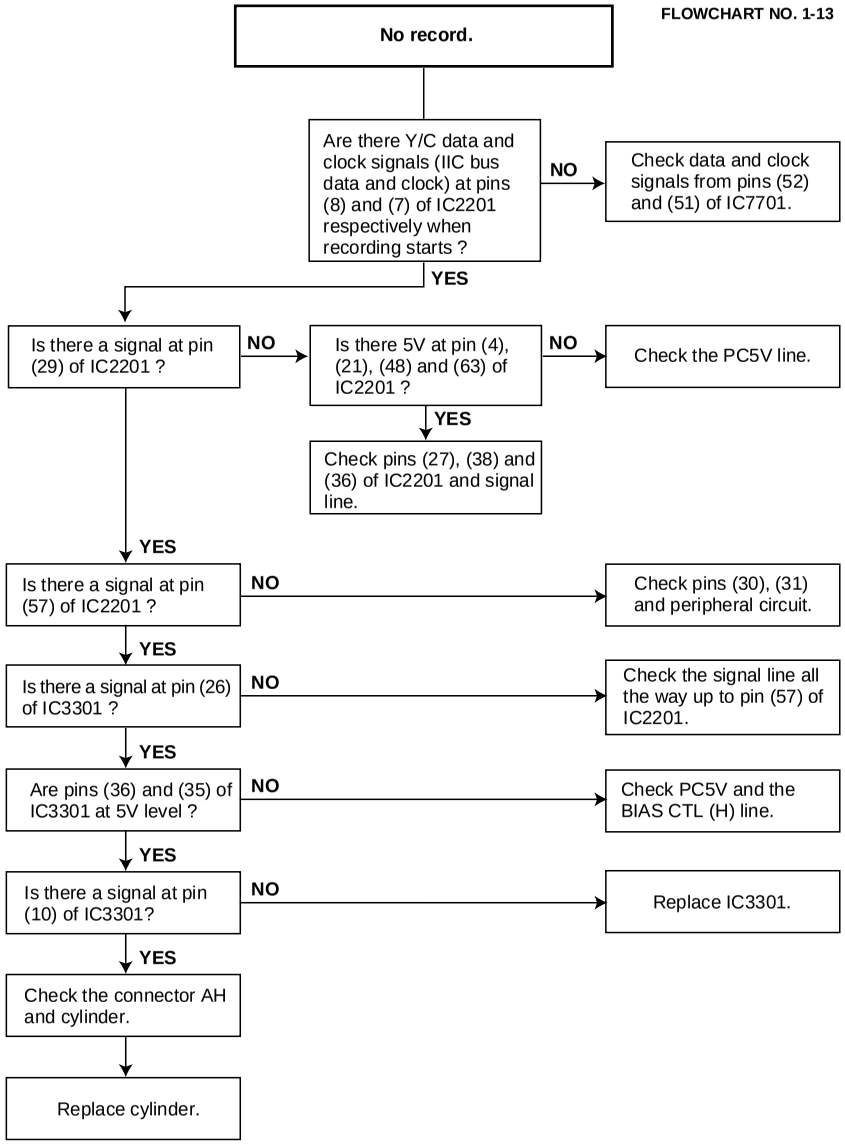
CAPSTAN SERVO TROUBLESHOOTING

FLOWCHART NO. 1-12


Capstan servo does not function.
Are REC and/or PB mode inoperative ?
Only PB mode inoperative.
Only REC mode inoperative.
A
B
YES
NO
Is there 16MHz oscillation at pins (38) and (39) of IC7701 ?
Check X7701, C7705 and C7706.
YES
Does there appear the V-sync. at pin (84) at IC7701 ?
NO
YES
Is there REC CTL signal output at pins (91), (92) of IC7701 ?
YES
NO
Check the capstan FG signal line between AC connector and IC7701.
NO
Does there appear the capstan FG signal at pin (85) of IC7701 ?
YES
Does PB CTL signal appear at pin (97) of IC7701 ?
YES
Is there capstan control signal at pin (77) of IC7701 ?
NO
Replace IC7701.
YES
NO
Does CTL amplifier circuit of IC7701 (pins (92) to (97)) operate normally ? (Does the noise appear at pin (97) when touch R7774 by hand ?)
NO
Replace IC7701.
Is there the capstan control voltage applied to pin (4) of AC connector ?
NO
Check pin (75) of IC7701.
YES
Check the composite sync. signal line between pin (14) of IC2201, Q2201, Q2202 and Q7706 all the way up to pin (84) of IC7701.
YES
Is the FFC AA-MH normal ?
NO
Replace the FFC AA-MH.
Check "Ⓐ".
YES
Does the A/C head operate normally ?
NO
Replace A/C head.
Check "Ⓑ".
YES
In case of NO GOOD
Adjust the height of the A/C head.
Replace the capstan motor.

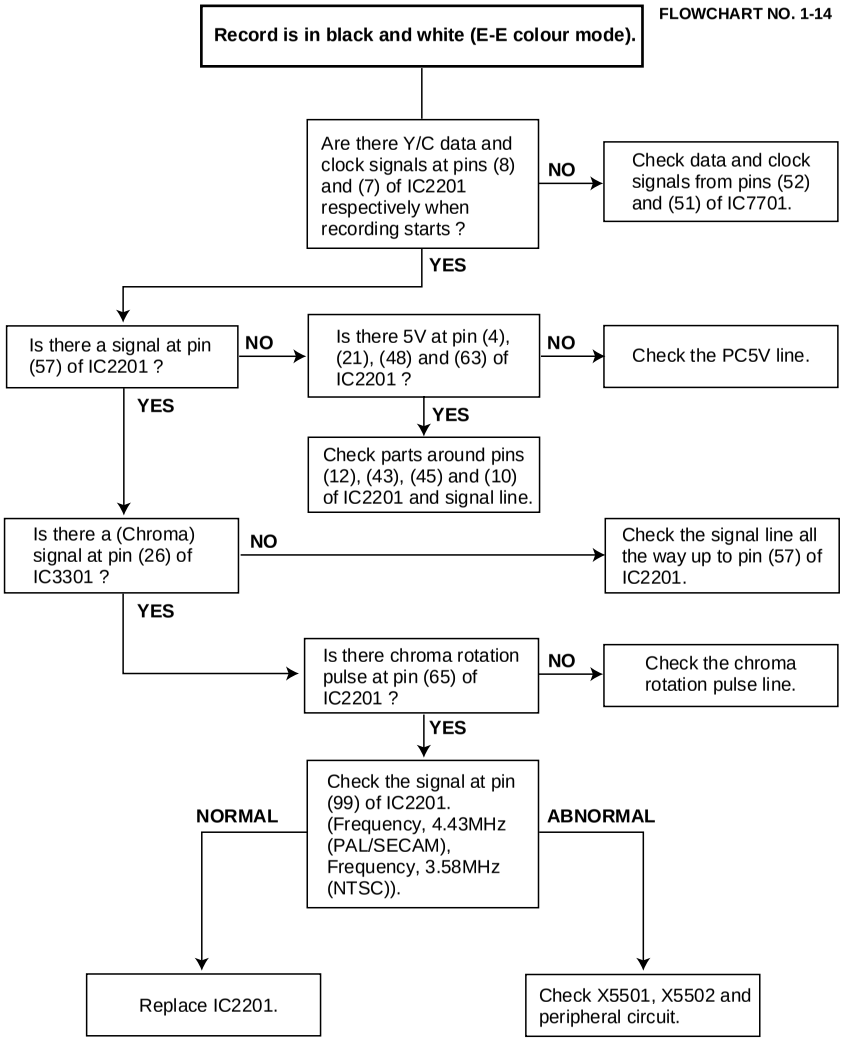
VCR RECORDING MODE (LUMINANCE) TROUBLESHOOTING

FLOWCHART NO. 1-13


No record.
Are there Y/C data and clock signals (IIC bus data and clock) at pins (8) and (7) of IC2201 respectively when recording starts ?
NO
Check data and clock signals from pins (52) and (51) of IC7701.
YES
Is there a signal at pin (29) of IC2201 ?
NO
Is there 5V at pin (4), (21), (48) and (63) of IC2201 ?
NO
Check the PC5V line.
YES
Check pins (27), (38) and (36) of IC2201 and signal line.
YES
Is there a signal at pin (57) of IC2201 ?
NO
Check pins (30), (31) and peripheral circuit.
YES
Is there a signal at pin (26) of IC3301 ?
NO
Check the signal line all the way up to pin (57) of IC2201.
YES
Are pins (36) and (35) of IC3301 at 5V level ?
NO
Check PC5V and the BIAS CTL (H) line.
YES
Is there a signal at pin (10) of IC3301?
NO
Replace IC3301.
YES
Check the connector AH and cylinder.
Replace cylinder.

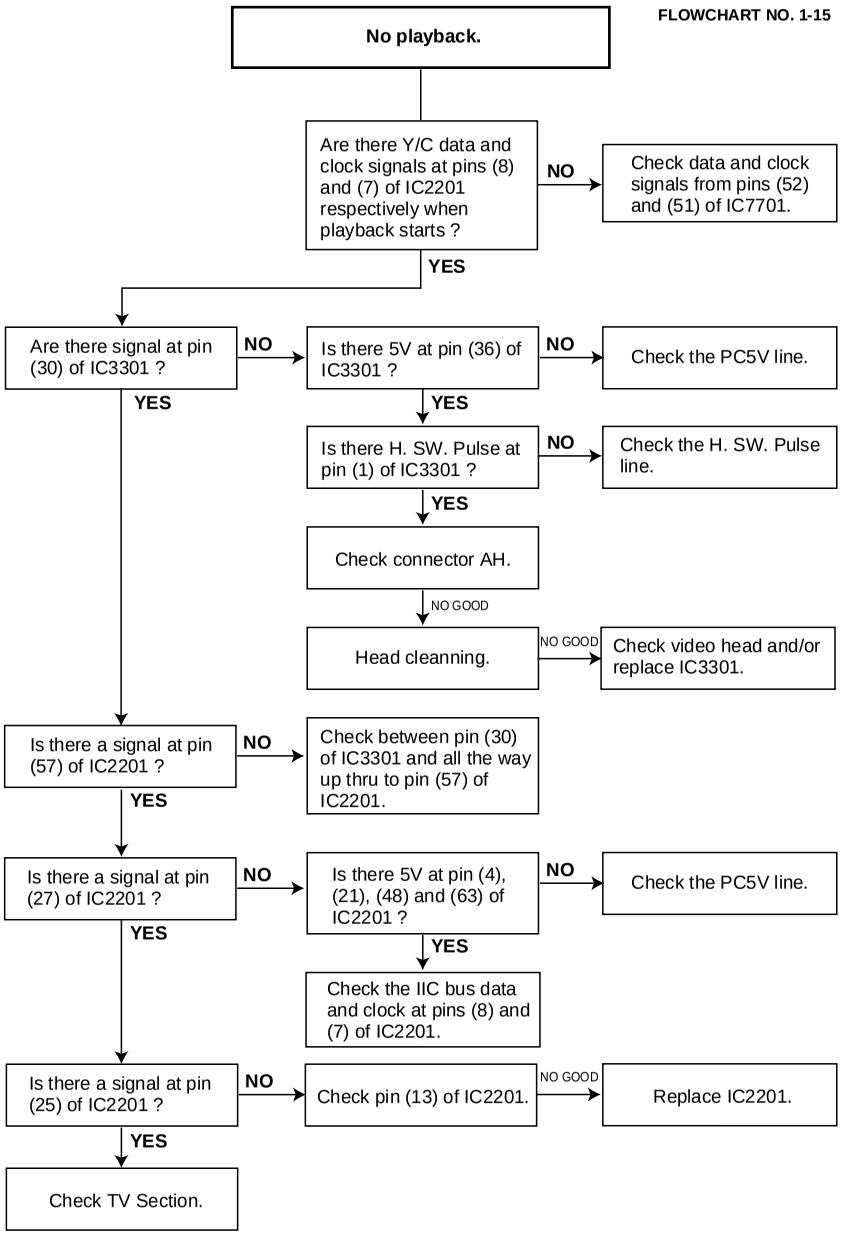
VCR RECORDING MODE (CHROMA) TROUBLESHOOTING

FLOWCHART NO. 1-14


Record is in black and white (E-E colour mode).
Are there Y/C data and clock signals at pins (8) and (7) of IC2201 respectively when recording starts ?
NO
Check data and clock signals from pins (52) and (51) of IC7701.
YES
Is there a signal at pin (57) of IC2201 ?
NO
Is there 5V at pin (4), (21), (48) and (63) of IC2201 ?
NO
Check the PC5V line.
YES
Check parts around pins (12), (43), (45) and (10) of IC2201 and signal line.
YES
Is there a (Chroma) signal at pin (26) of IC3301 ?
NO
Check the signal line all the way up to pin (57) of IC2201.
YES
Is there chroma rotation pulse at pin (65) of IC2201 ?
NO
Check the chroma rotation pulse line.
YES
Check the signal at pin (99) of IC2201. (Frequency, 4.43MHz (PAL/SECAM), Frequency, 3.58MHz (NTSC)).
NORMAL
ABNORMAL
Replace IC2201.
Check X5501, X5502 and peripheral circuit.

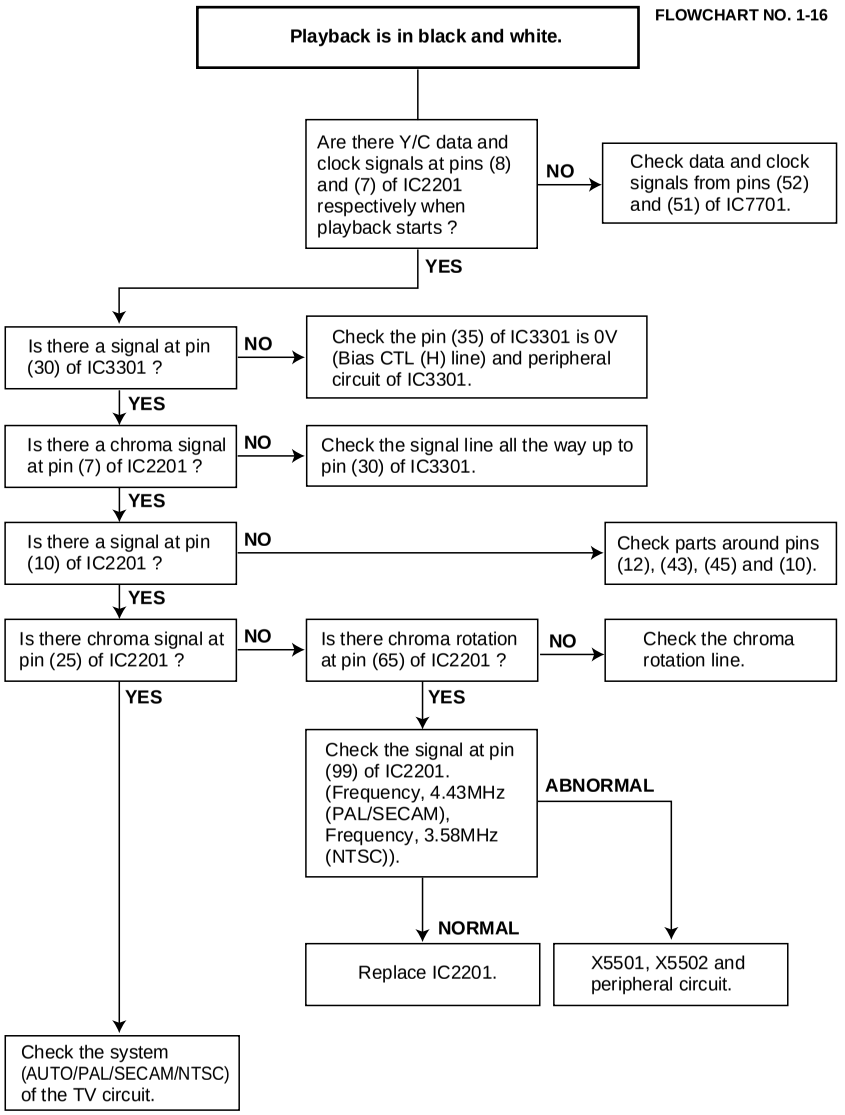
VCR PLAYBACK MODE (LUMINANCE) TROUBLESHOOTING

FLOWCHART NO. 1-15


No playback.
Are there Y/C data and clock signals at pins (8) and (7) of IC2201 respectively when playback starts ?
NO
Check data and clock signals from pins (52) and (51) of IC7701.
YES
Are there signal at pin (30) of IC3301 ?
NO
Is there 5V at pin (36) of IC3301 ?
NO
Check the PC5V line.
YES
YES
Is there H. SW. Pulse at pin (1) of IC3301 ?
NO
Check the H. SW. Pulse line.
YES
Check connector AH.
NO GOOD
Head cleanning.
NO GOOD
Check video head and/or replace IC3301.
Is there a signal at pin (57) of IC2201 ?
NO
Check between pin (30) of IC3301 and all the way up thru to pin (57) of IC2201.
YES
Is there a signal at pin (27) of IC2201 ?
NO
Is there 5V at pin (4), (21), (48) and (63) of IC2201 ?
NO
Check the PC5V line.
YES
YES
Check the IIC bus data and clock at pins (8) and (7) of IC2201.
Is there a signal at pin (25) of IC2201 ?
NO
Check pin (13) of IC2201.
NO GOOD
Replace IC2201.
YES
Check TV Section.

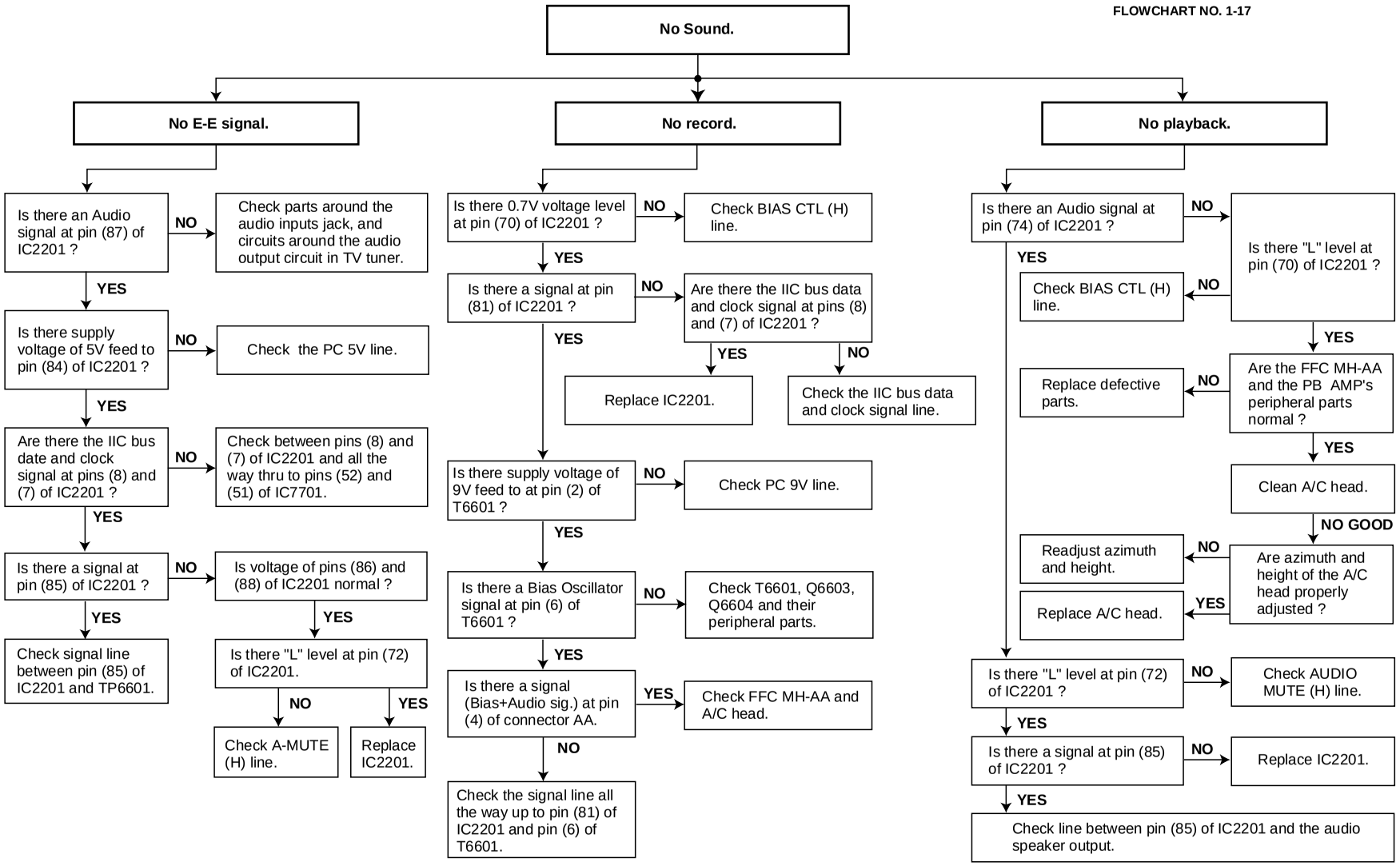
VCR PLAYBACK MODE (CHROMA) TROUBLESHOOTING

FLOWCHART NO. 1-16


Playback is in black and white.
Are there Y/C data and clock signals at pins (8) and (7) of IC2201 respectively when playback starts ?
NO
Check data and clock signals from pins (52) and (51) of IC7701.
YES
Is there a signal at pin (30) of IC3301 ?
NO
Check the pin (35) of IC3301 is 0V (Bias CTL (H) line) and peripheral circuit of IC3301.
YES
Is there a chroma signal at pin (7) of IC2201 ?
NO
Check the signal line all the way up to pin (30) of IC3301.
YES
Is there a signal at pin (10) of IC2201 ?
NO
Check parts around pins (12), (43), (45) and (10).
YES
Is there chroma signal at pin (25) of IC2201 ?
NO
Is there chroma rotation at pin (65) of IC2201 ?
NO
Check the chroma rotation line.
YES
YES
Check the signal at pin (99) of IC2201. (Frequency, 4.43MHz (PAL/SECAM), Frequency, 3.58MHz (NTSC)).
ABNORMAL
NORMAL
Replace IC2201.
X5501, X5502 and peripheral circuit.
Check the system (AUTO/PAL/SECAM/NTSC) of the TV circuit.

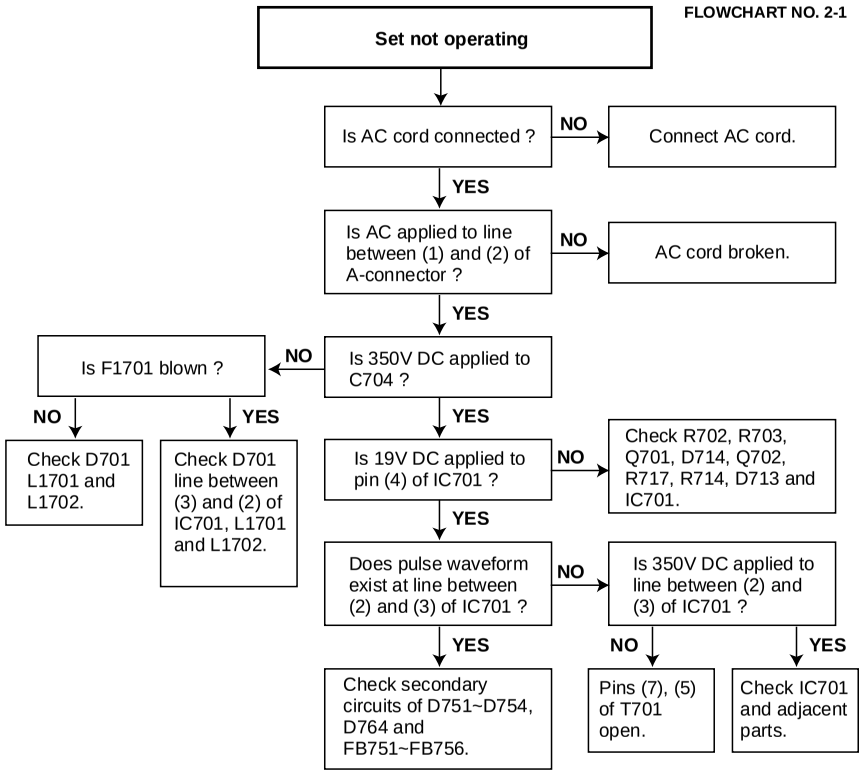
VCR SOUND TROUBLESHOOTING

FLOWCHART NO. 1-17


No Sound.
No E-E signal.
Is there an Audio signal at pin (87) of IC2201 ?
NO
Check parts around the audio inputs jack, and circuits around the audio output circuit in TV tuner.
YES
Is there supply voltage of 5V feed to pin (84) of IC2201 ?
NO
Check the PC 5V line.
YES
Are there the IIC bus date and clock signal at pins (8) and (7) of IC2201 ?
NO
Check between pins (8) and (7) of IC2201 and all the way thru to pins (52) and (51) of IC7701.
YES
Is there a signal at pin (85) of IC2201 ?
NO
Is voltage of pins (86) and (88) of IC2201 normal ?
YES
Check signal line between pin (85) of IC2201 and TP6601.
YES
Is there "L" level at pin (72) of IC2201.
NO
YES
Check A-MUTE (H) line.
Replace IC2201.
No record.
Is there 0.7V voltage level at pin (70) of IC2201 ?
NO
Check BIAS CTL (H) line.
YES
Is there a signal at pin (81) of IC2201 ?
NO
Are there the IIC bus data and clock signal at pins (8) and (7) of IC2201 ?
YES
YES
NO
Replace IC2201.
Check the IIC bus data and clock signal line.
Is there supply voltage of 9V feed to at pin (2) of T6601 ?
NO
Check PC 9V line.
YES
Is there a Bias Oscillator signal at pin (6) of T6601 ?
NO
Check T6601, Q6603, Q6604 and their peripheral parts.
YES
Is there a signal (Bias+Audio sig.) at pin (4) of connector AA.
YES
Check FFC MH-AA and A/C head.
NO
Check the signal line all the way up to pin (81) of IC2201 and pin (6) of T6601.
No playback.
Is there an Audio signal at pin (74) of IC2201 ?
NO
Is there "L" level at pin (70) of IC2201 ?
YES
Check BIAS CTL (H) line.
NO
YES
Replace defective parts.
NO
Are the FFC MH-AA and the PB AMP's peripheral parts normal ?
YES
Clean A/C head.
NO GOOD
Readjust azimuth and height.
NO
Are azimuth and height of the A/C head properly adjusted ?
Replace A/C head.
YES
Is there "L" level at pin (72) of IC2201 ?
NO
Check AUDIO MUTE (H) line.
YES
Is there a signal at pin (85) of IC2201 ?
NO
Replace IC2201.
YES
Check line between pin (85) of IC2201 and the audio speaker output.

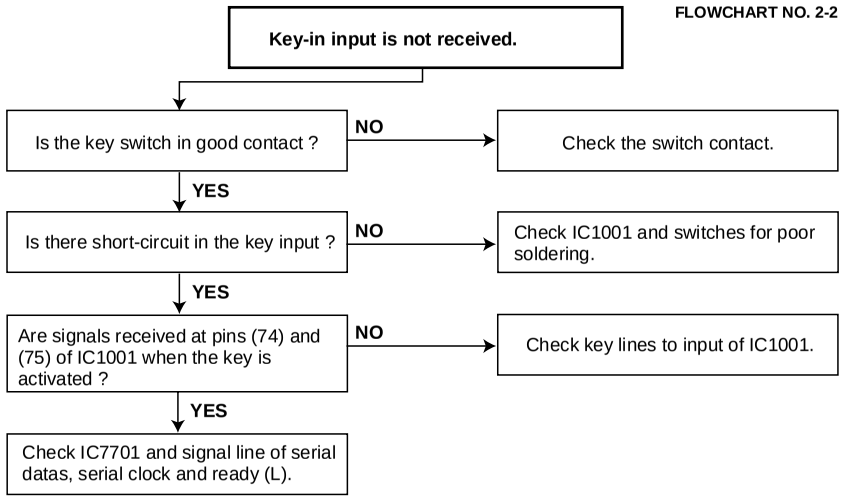
TV TROOUBLESHOOTING TABLE

FLOWCHART NO. 2-1


Set not operating
Is AC cord connected ?
NO
Connect AC cord.
YES
Is AC applied to line between (1) and (2) of A-connector ?
NO
AC cord broken.
YES
Is 350V DC applied to C704 ?
NO
Is F1701 blown ?
NO
YES
Check D701 L1701 and L1702.
Check D701 line between (3) and (2) of IC701, L1701 and L1702.
YES
Is 19V DC applied to pin (4) of IC701 ?
NO
Check R702, R703, Q701, D714, Q702, R717, R714, D713 and IC701.
YES
Does pulse waveform exist at line between (2) and (3) of IC701 ?
NO
Is 350V DC applied to line between (2) and (3) of IC701 ?
YES
Check secondary circuits of D751~D754, D764 and FB751~FB756.
NO
YES
Pins (7), (5) of T701 open.
Check IC701 and adjacent parts.

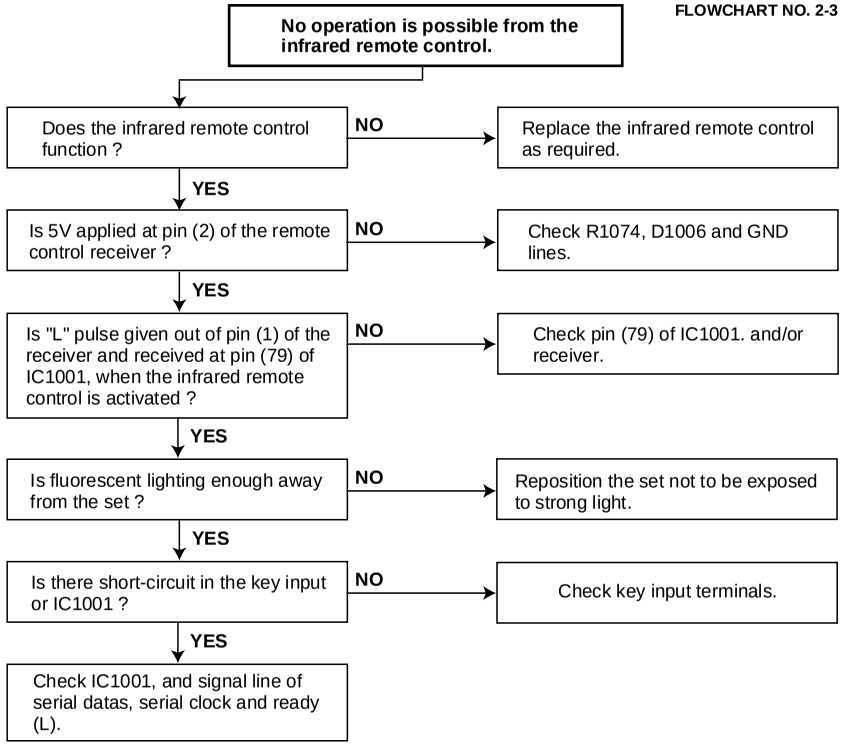
KEY-IN TROUBLESHOOTING

FLOWCHART NO. 2-2


Key-in input is not received.
Is the key switch in good contact ?
NO
Check the switch contact.
YES
Is there short-circuit in the key input ?
NO
Check IC1001 and switches for poor soldering.
YES
Are signals received at pins (74) and (75) of IC1001 when the key is activated ?
NO
Check key lines to input of IC1001.
YES
Check IC7701 and signal line of serial datas, serial clock and ready (L).

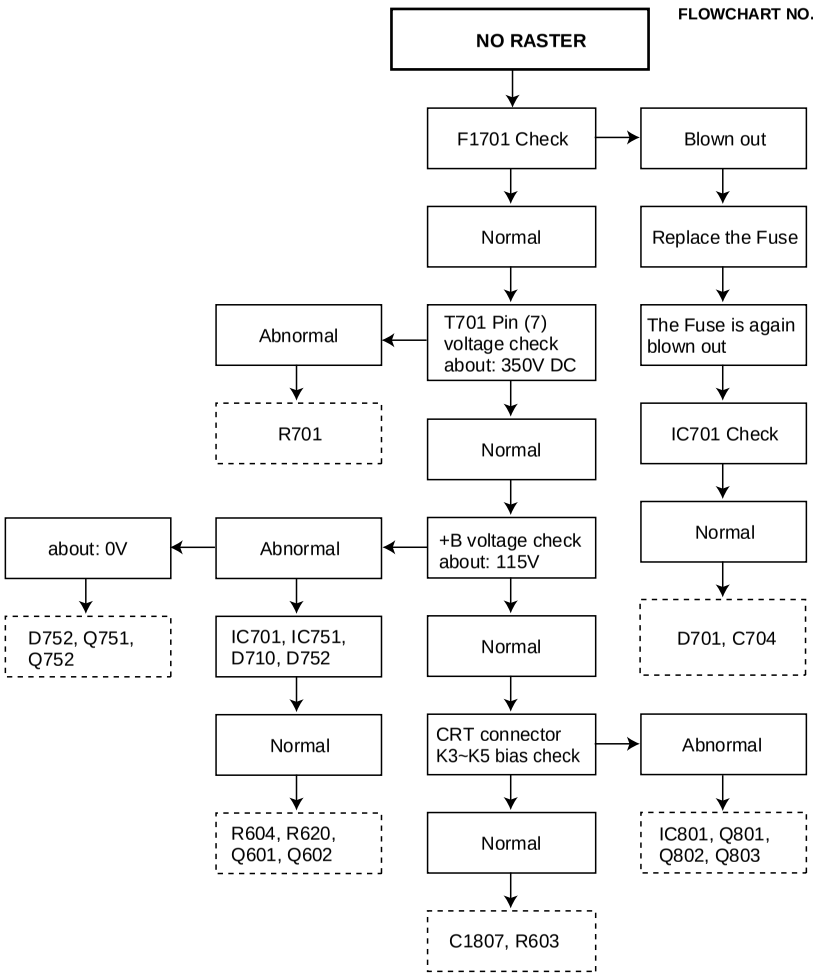
INFRARED R/C TROUBLESHOOTING

FLOWCHART NO. 2-3


No operation is possible from the infrared remote control.
Does the infrared remote control function ?
NO
Replace the infrared remote control as required.
YES
Is 5V applied at pin (2) of the remote control receiver ?
NO
Check R1074, D1006 and GND lines.
YES
Is "L" pulse given out of pin (1) of the receiver and received at pin (79) of IC1001, when the infrared remote control is activated ?
NO
Check pin (79) of IC1001. and/or receiver.
YES
Is fluorescent lighting enough away from the set ?
NO
Reposition the set not to be exposed to strong light.
YES
Is there short-circuit in the key input or IC1001 ?
NO
Check key input terminals.
YES
Check IC1001, and signal line of serial datas, serial clock and ready (L).

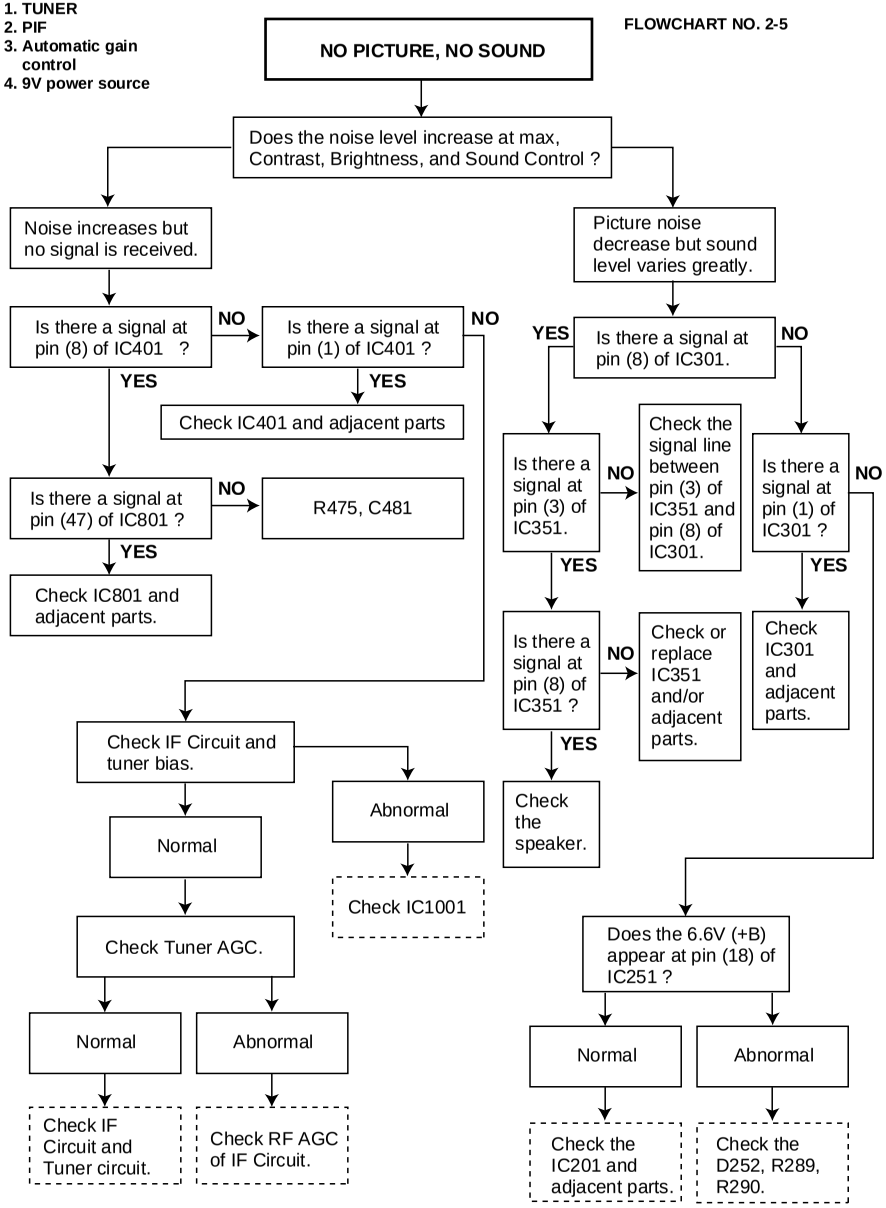
TV TROUBLESHOOTING TABLE

FLOWCHART NO. 2-4

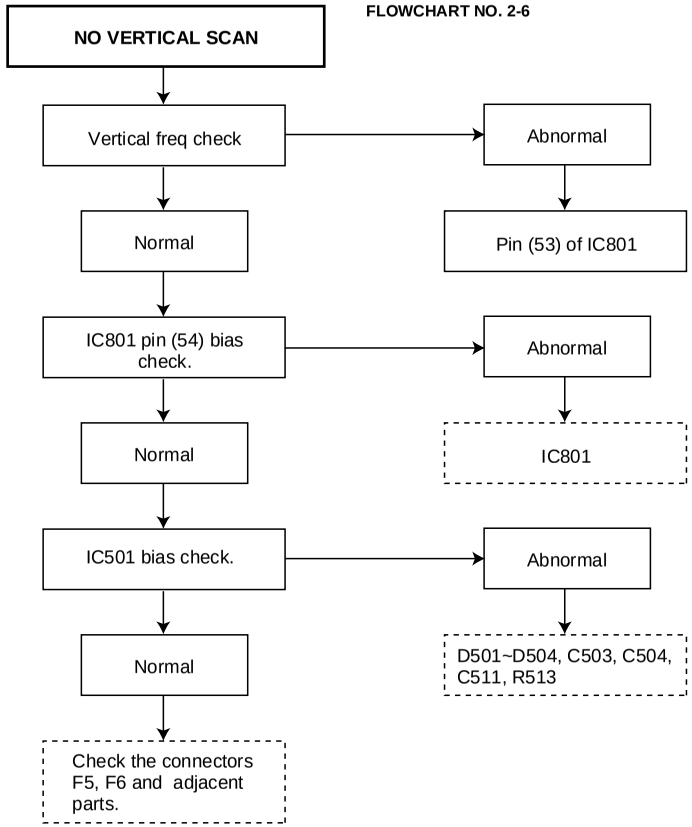


Circuit to be checked:
1. TUNER
2. PIF
3. Automatic gain control
4. 9V power source

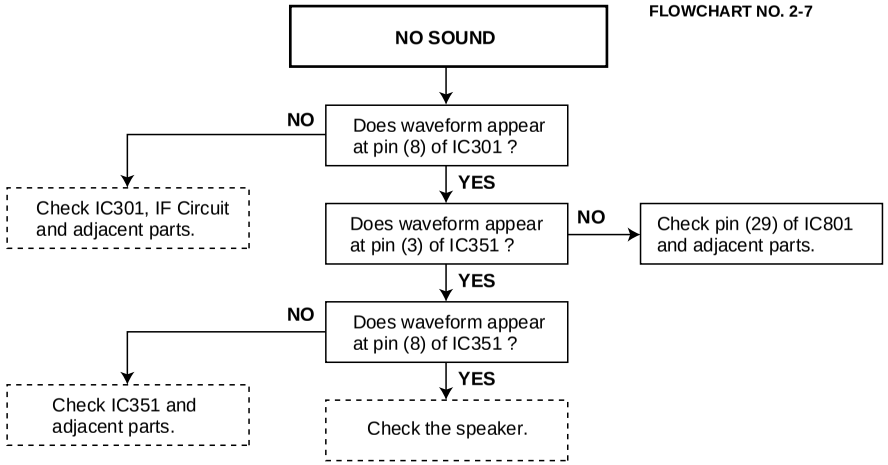
FLOWCHART NO. 2-5


NO PICTURE, NO SOUND
Does the noise level increase at max, Contrast, Brightness, and Sound Control ?
Noise increases but no signal is received.
Picture noise decrease but sound level varies greatly.
Is there a signal at pin (8) of IC401 ?
NO
Is there a signal at pin (1) of IC401 ?
NO
YES
YES
Check IC401 and adjacent parts
Is there a signal at pin (47) of IC801 ?
NO
R475, C481
YES
Check IC801 and adjacent parts.
Check IF Circuit and tuner bias.
Abnormal
Check IC1001
Normal
Check Tuner AGC.
Normal
Abnormal
Check IF Circuit and Tuner circuit.
Check RF AGC of IF Circuit.
YES
Is there a signal at pin (8) of IC301.
NO
Is there a signal at pin (3) of IC351.
NO
Check the signal line between pin (3) of IC351 and pin (8) of IC301.
Is there a signal at pin (1) of IC301 ?
NO
YES
YES
Is there a signal at pin (8) of IC351 ?
NO
Check or replace IC351 and/or adjacent parts.
Check IC301 and adjacent parts.
YES
Check the speaker.
Does the 6.6V (+B) appear at pin (18) of IC251 ?
Normal
Abnormal
Check the IC201 and adjacent parts.
Check the D252, R289, R290.

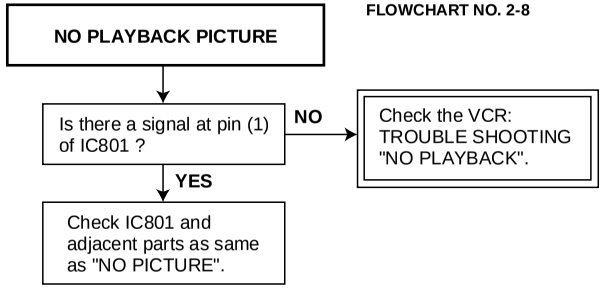
FLOWCHART NO. 2-6



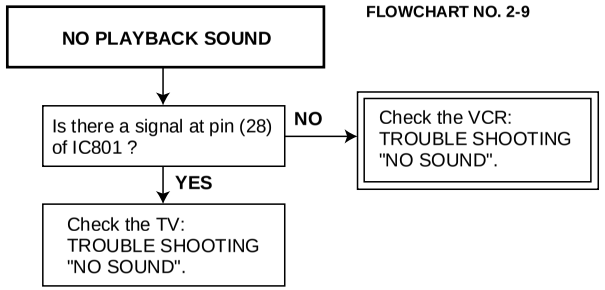
FLOWCHART NO. 2-7


NO SOUND
NO
Does waveform appear at pin (8) of IC301 ?
Check IC301, IF Circuit and adjacent parts.
YES
Does waveform appear at pin (3) of IC351 ?
NO
Check pin (29) of IC801 and adjacent parts.
YES
NO
Does waveform appear at pin (8) of IC351 ?
Check IC351 and adjacent parts.
YES
Check the speaker.

FLOWCHART NO. 2-8

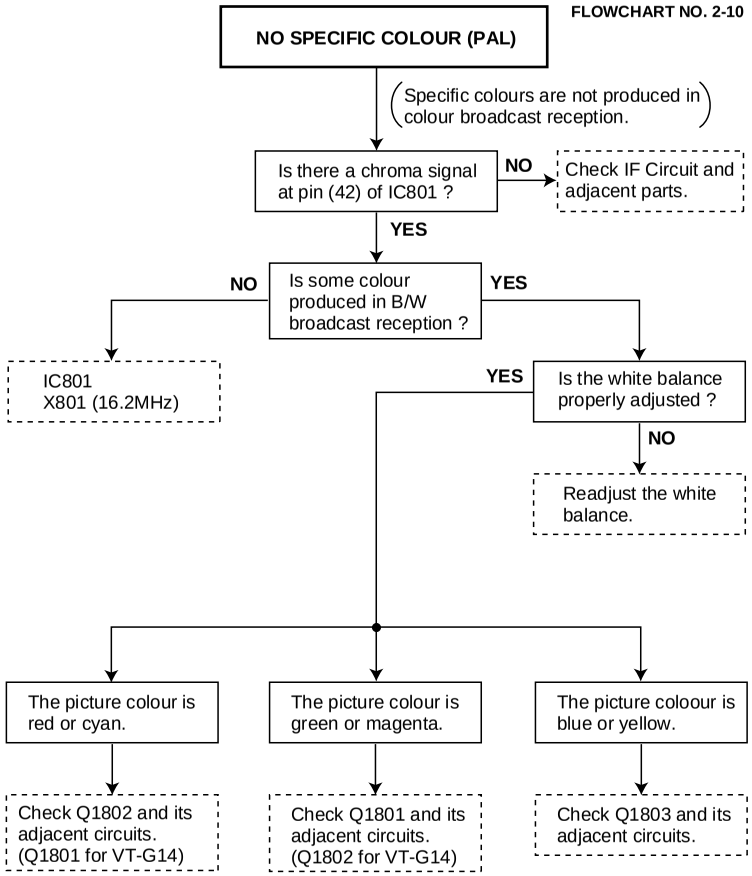

NO PLAYBACK PICTURE
Is there a signal at pin (1) of IC801 ?
NO
Check the VCR: TROUBLE SHOOTING "NO PLAYBACK".
YES
Check IC801 and adjacent parts as same as "NO PICTURE".

FLOWCHART NO. 2-9


NO PLAYBACK SOUND
Is there a signal at pin (28) of IC801 ?
NO
Check the VCR: TROUBLE SHOOTING "NO SOUND".
YES
Check the TV: TROUBLE SHOOTING "NO SOUND".

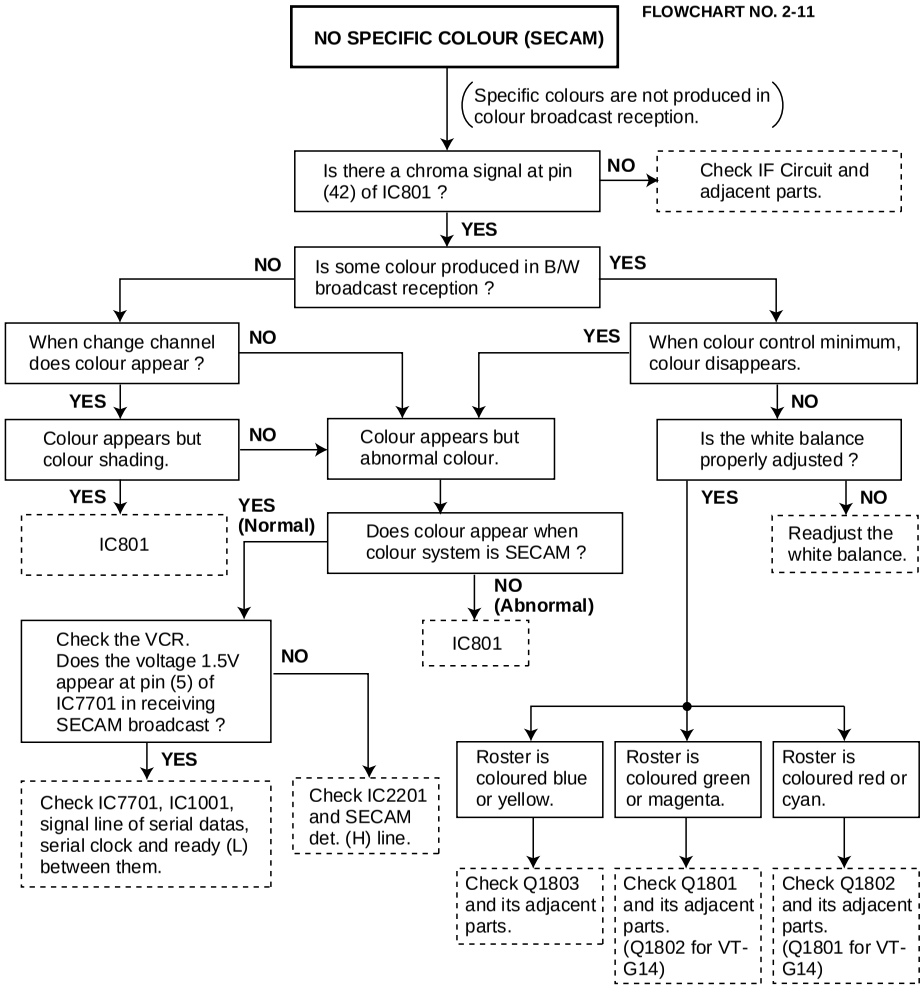
Circuits to be checked:
- **IC801 and its Adjacent Circuit**
- **R. G. B. Output Circuit**

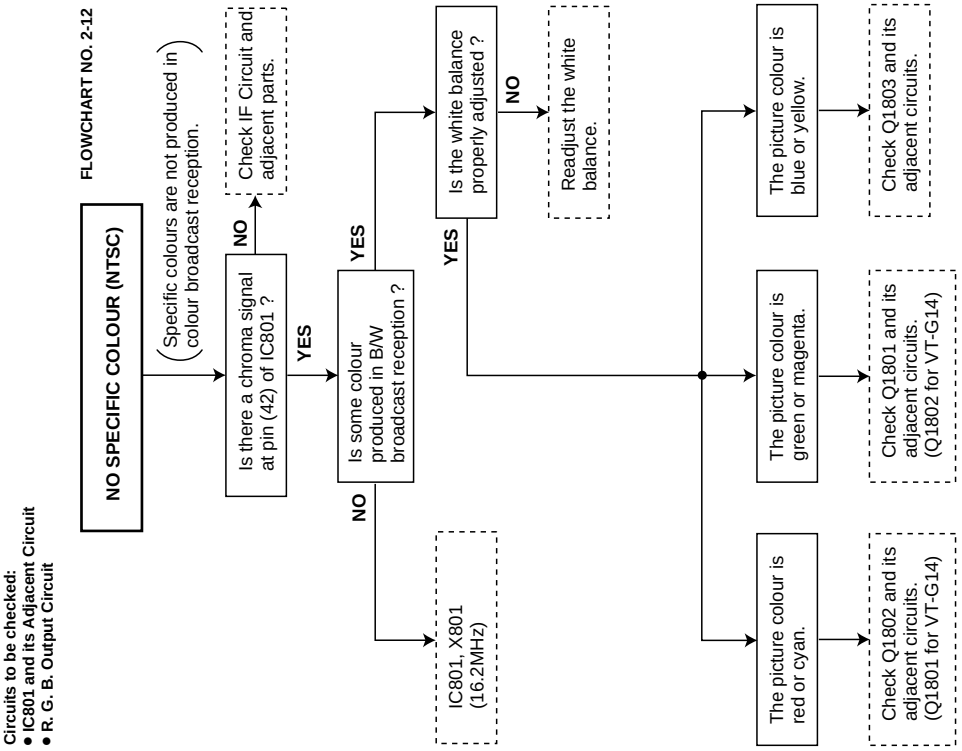
FLOWCHART NO. 2-10


NO SPECIFIC COLOUR (PAL)
Specific colours are not produced in colour broadcast reception.
Is there a chroma signal at pin (42) of IC801 ?
NO
Check IF Circuit and adjacent parts.
YES
Is some colour produced in B/W broadcast reception ?
NO
YES
IC801
X801 (16.2MHz)
YES
Is the white balance properly adjusted ?
NO
Readjust the white balance.
The picture colour is red or cyan.
The picture colour is green or magenta.
The picture coloour is blue or yellow.
Check Q1802 and its adjacent circuits. (Q1801 for VT-G14)
Check Q1801 and its adjacent circuits. (Q1802 for VT-G14)
Check Q1803 and its adjacent circuits.

Circuits to be checked:
- **IC801 and its Adjacent Circuit**
- **R. G. B. Output Circuit**

FLOWCHART NO. 2-11

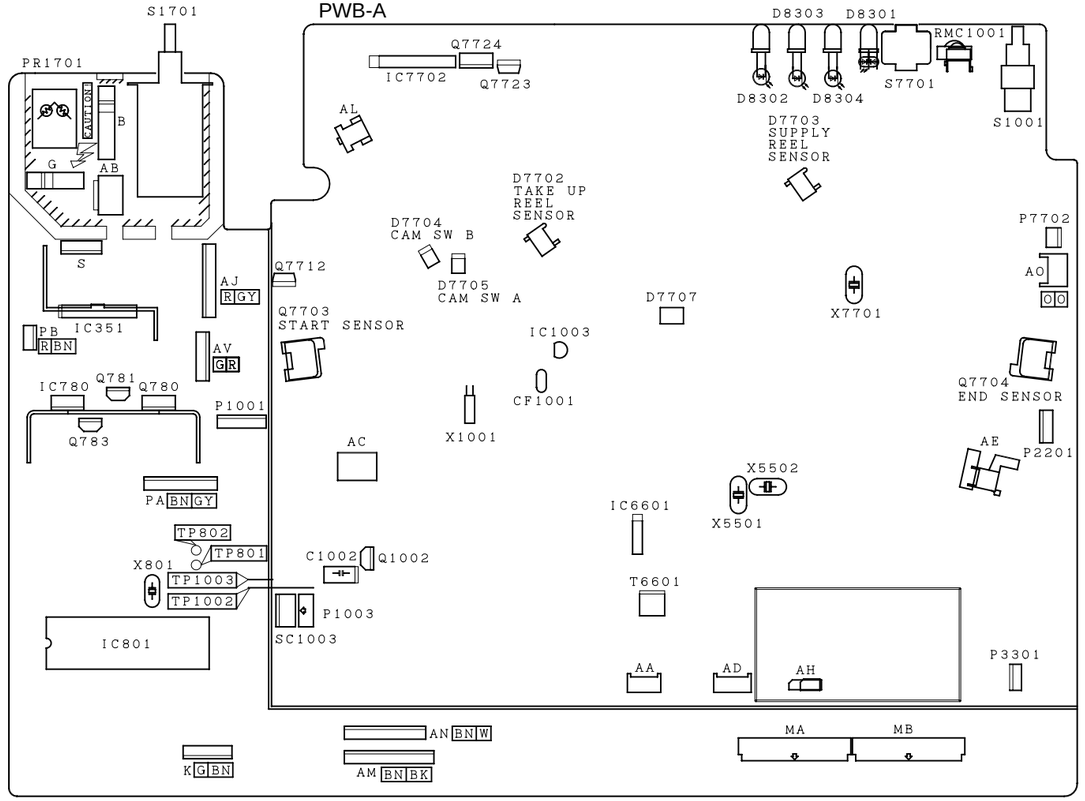

NO SPECIFIC COLOUR (SECAM)
Specific colours are not produced in colour broadcast reception.
Is there a chroma signal at pin (42) of IC801 ?
NO
Check IF Circuit and adjacent parts.
YES
NO
Is some colour produced in B/W broadcast reception ?
YES
When change channel does colour appear ?
NO
YES
When colour control minimum, colour disappears.
YES
NO
Colour appears but colour shading.
NO
Colour appears but abnormal colour.
Is the white balance properly adjusted ?
YES
YES
NO
IC801
YES (Normal)
Does colour appear when colour system is SECAM ?
Readjust the white balance.
NO (Abnormal)
IC801
Check the VCR. Does the voltage 1.5V appear at pin (5) of IC7701 in receiving SECAM broadcast ?
NO
YES
Check IC7701, IC1001, signal line of serial datas, serial clock and ready (L) between them.
Check IC2201 and SECAM det. (H) line.
Roster is coloured blue or yellow.
Roster is coloured green or magenta.
Roster is coloured red or cyan.
Check Q1803 and its adjacent parts.
Check Q1801 and its adjacent parts. (Q1802 for VT-G14)
Check Q1802 and its adjacent parts. (Q1801 for VT-G14)


FLOWCHART NO. 2-12
NO SPECIFIC COLOUR (NTSC)
Specific colours are not produced in colour broadcast reception.
Is there a chroma signal at pin (42) of IC801 ?
NO
Check IF Circuit and adjacent parts.
YES
Is some colour produced in B/W broadcast reception ?
NO
IC801, X801 (16.2MHz)
YES
Is the white balance properly adjusted ?
NO
Readjust the white balance.
YES
The picture colour is red or cyan.
Check Q1802 and its adjacent circuits. (Q1801 for VT-G14)
The picture colour is green or magenta.
Check Q1801 and its adjacent circuits. (Q1802 for VT-G14)
The picture colour is blue or yellow.
Check Q1803 and its adjacent circuits.

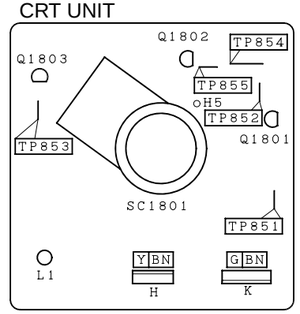
Circuits to be checked:
- **IC801 and its Adjacent Circuit**
- **R. G. B. Output Circuit**

CHASSIS LAYOUT

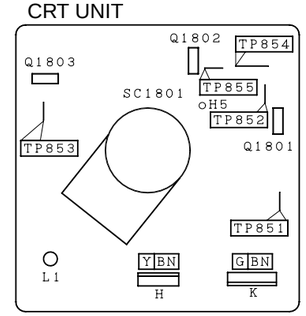
MAIN UNIT
PWB-A



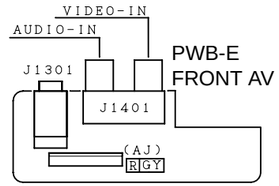
PWB-D (ONLY for VT-G14)
CRT UNIT



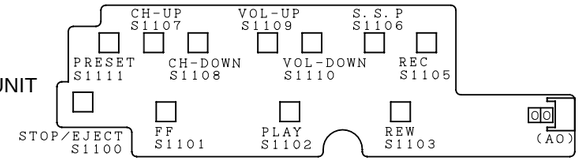
PWB-D (ONLY for VT-G21)
CRT UNIT



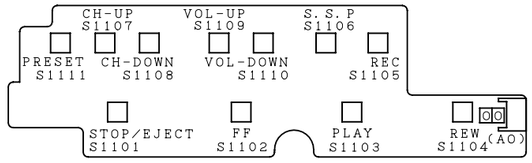
PWB-E
FRONT AV UNIT



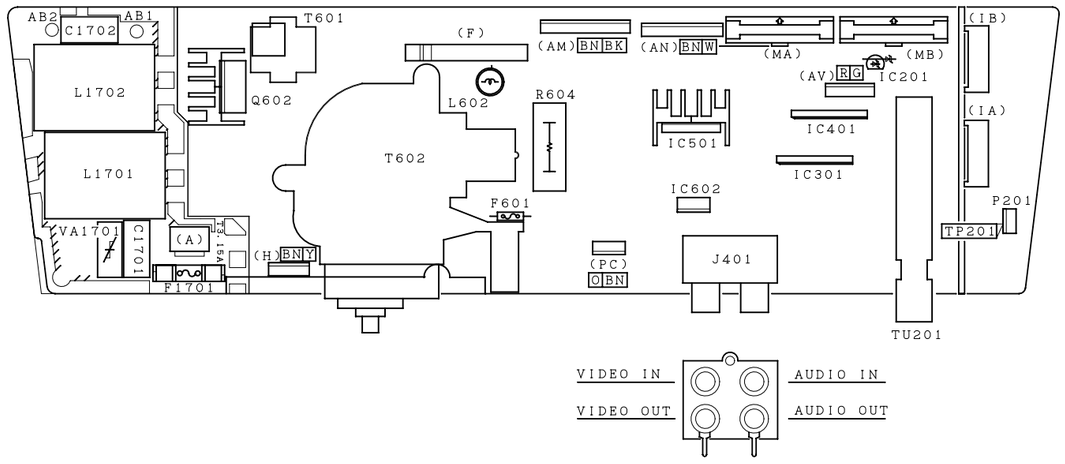
PWB-F (ONLY for VT-G14)
KEY UNIT



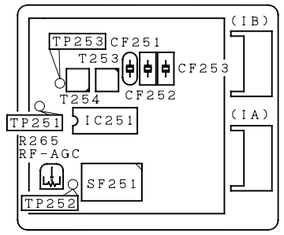
PWB-F (ONLY for VT-G21)
KEY UNIT



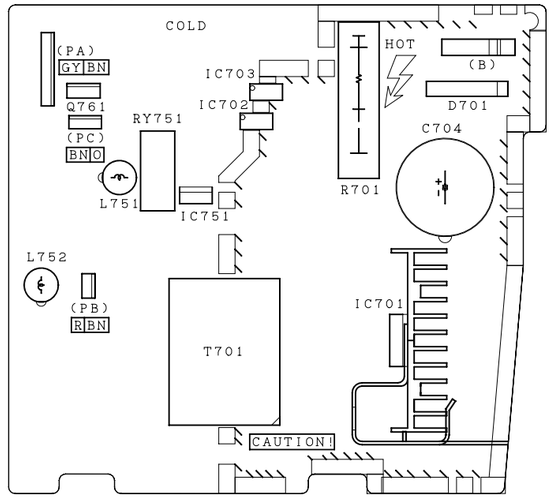
PWB-B
TUNER/DEF UNIT



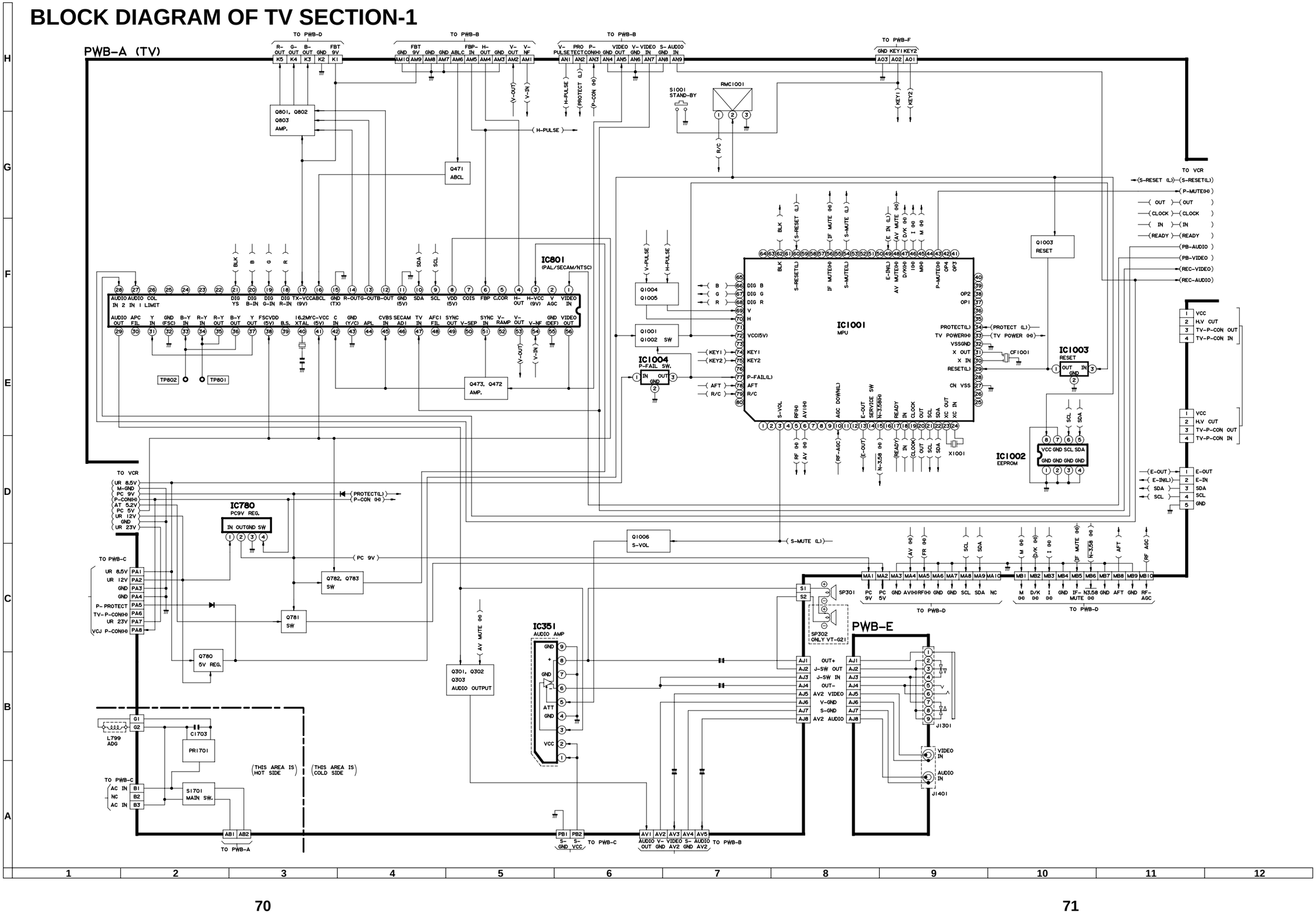
PWB-G
IF UNIT



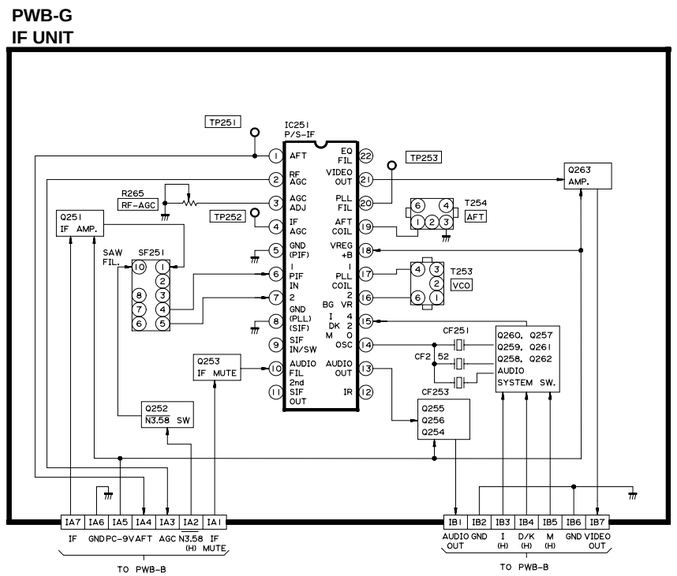
PWB-C
POWER UNIT

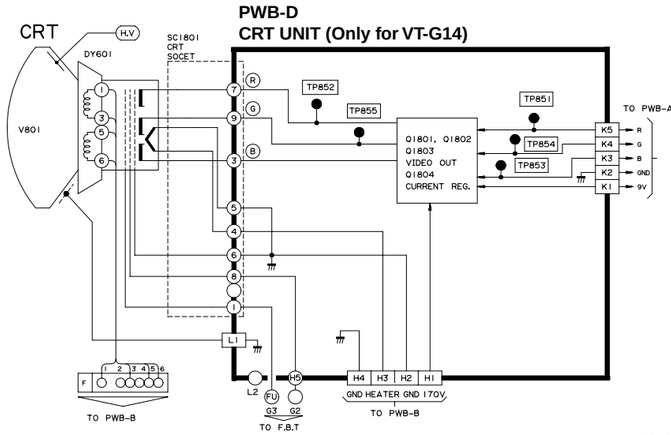


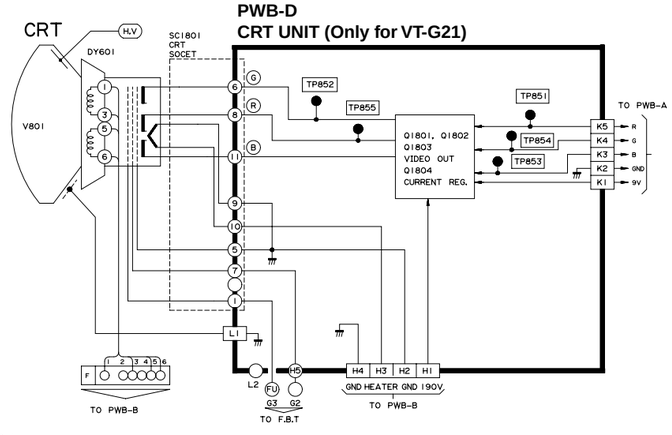
BLOCK DIAGRAM OF TV SECTION-1

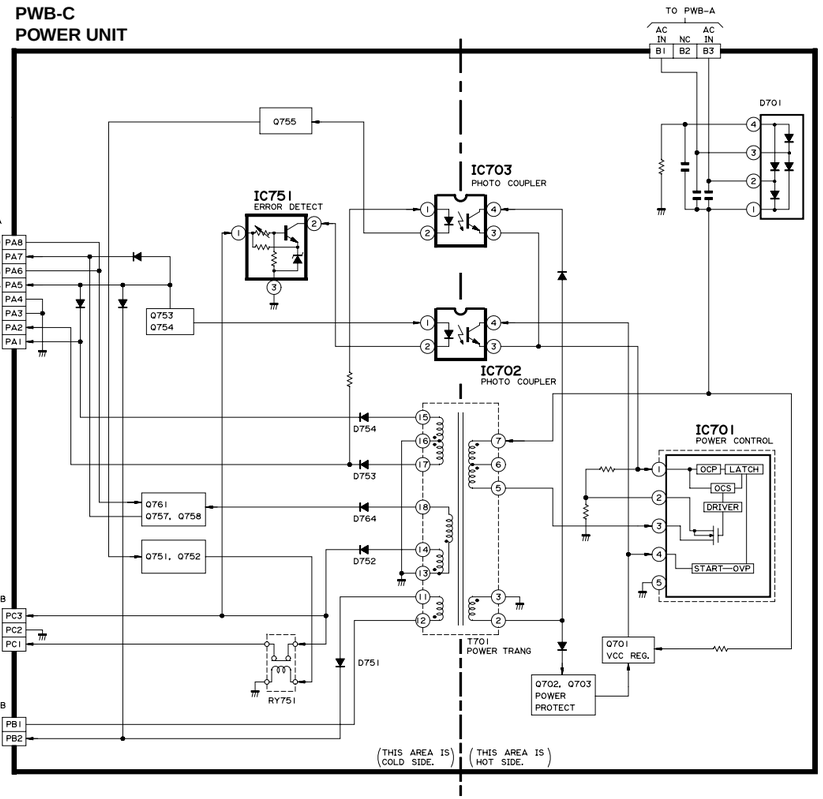


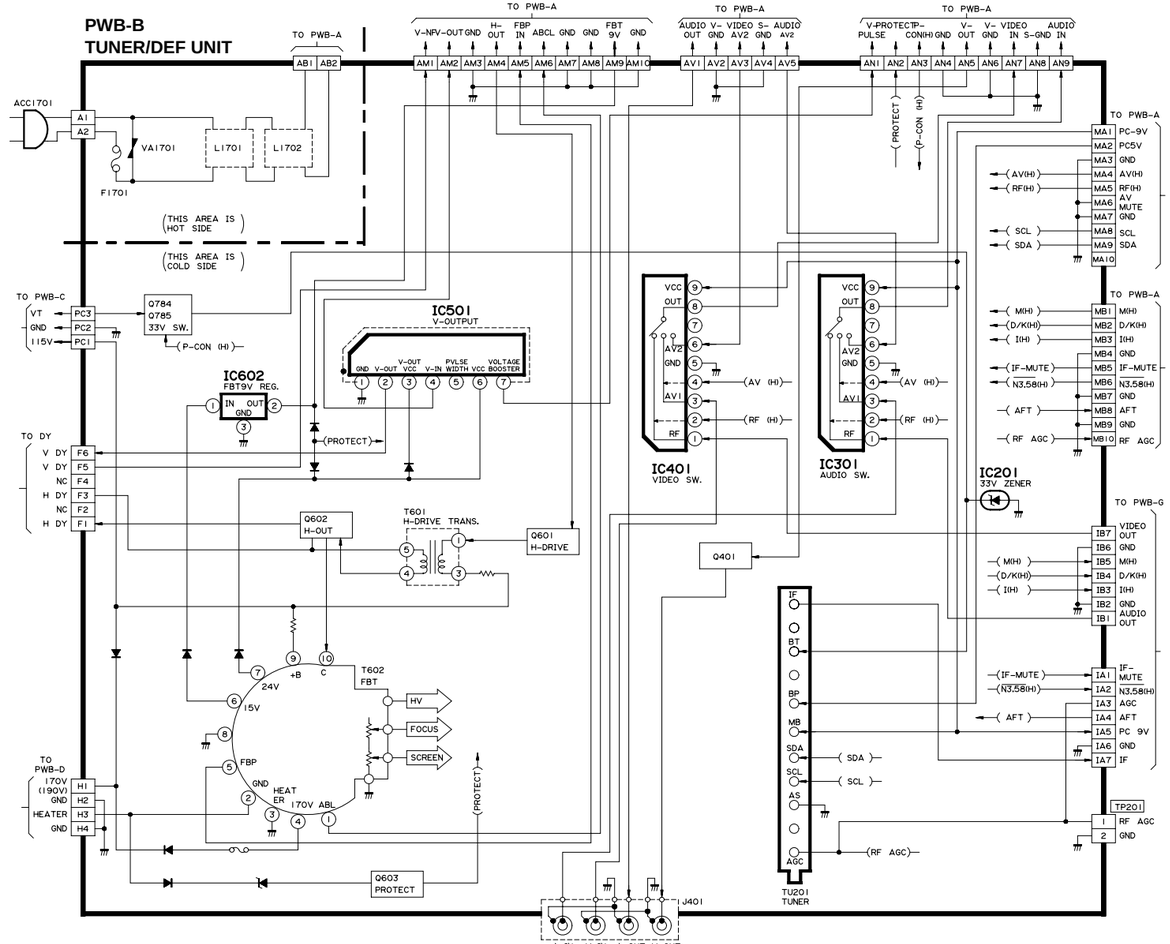
BLOCK DIAGRAM OF TV SECTION-2











DESCRIPTION OF TV SECTION
SCHEMATIC DIAGRAM

SAFETY NOTE:

1. ***DISCONNECT THE AC PLUG FROM THE AC OUTLET BEFORE REPLACEING PARTS.***
2. ***SEMICONDUCTOR HEAT SINKS SHOULD BE REGARDED AS POTENTIAL SHOCK HAZARDS WHEN THE CHASSIS IS OPERATING.***

IMPORTANT SAFETY NOTICE:

BE SURE TO USE GENUINE PARTS FOR SECURING THE SAFETY AND RELIABILITY OF THE SET.
PARTS MARKED WITH "⚠" (▬▬▬▬) ARE IMPORTANT FOR MAINTAINING THE SAFETY OF THE SET. BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETY AND PERFORMANCE OF THE SET.

SERVICE PRECAUTION:

THE AREA ENCLOSED BY THIS LINE (▬▬▬▬▬▬▬) IS DIRECTLY CONNECTED WITH ACMAINS VOLTAGE.
WHEN SERVICING THE AREA, CONNECT AN ISOLATING TRANSFORMER BETWEEN TV RECEIVER AC LINE TO ELIMINATE HAZARD OF ELECTRIC SHOCK.

CAUTION:

This circuit diagram is original one, therefore there may be a slight difference from yours.

NOTES:

1. The unit of resistance "Ω" is omitted.
   (K = kΩ = 1000 Ω, M = MΩ).
2. All resistors are 1/8 watt, unless otherwise noted.
3. The unit of capacitance "F" is omitted.
   (μ = μF, P = μμF).
4. The values in parentheses are the ones in the PB mode; the values without parentheses are the ones in the REC mode.

VOLTAGE MEASUREMENT CONDITIONS:

1. DC voltages are measured between points indicated and chassis ground by VTVM, with AC 110 ~ 240V, 50/60Hz supplied to unit and all controls are set to normal viewing picture unless otherwise noted.
2, Voltages are measured with 10000μV B&W or coloour signal.

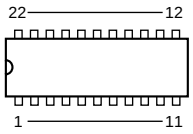
WAVEFORM MEASUREMENT CONDITIONS:

10000μV, 87.5% modulated colour bar signal is fed into tuner.

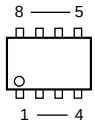
SOLID STATE DEVICE BASE DIAGRAM

TOP VIEW

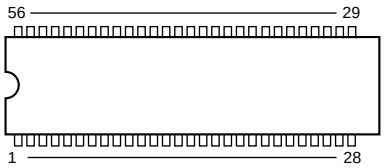
FX0008GE



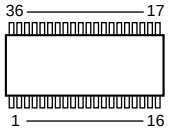
BA7357S



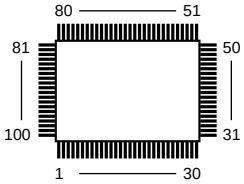
S24C04A



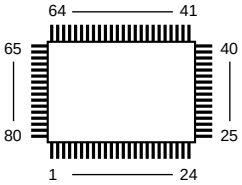
TB1226DN



AN3363S

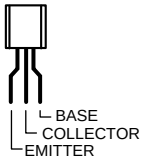


iX3057CE
NN3572F

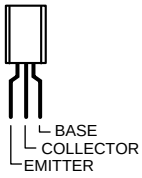


iX3109CE

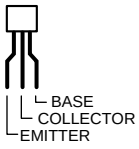
SIDE VIEW



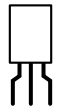
2SA1266
2SC3198
2SC2001
2SC1906



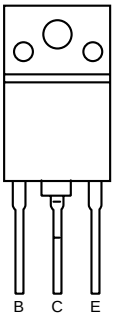
2SC2229
2SC2482
2SC3939



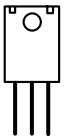
DTC144ES



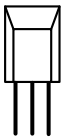
KTA1024



2SD1877
2SD2586



2SC3789



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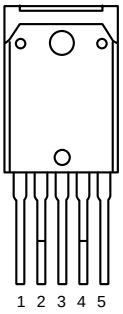
2SD471
2SB1117



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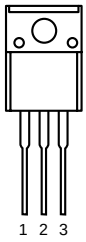

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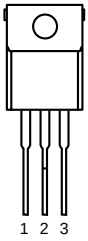

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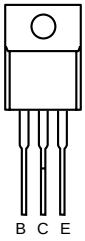

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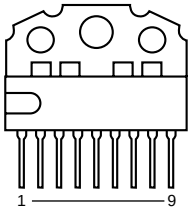

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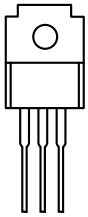

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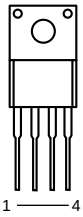

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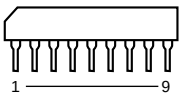

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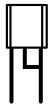

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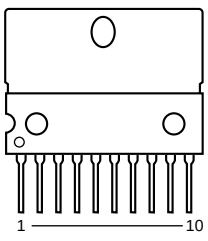
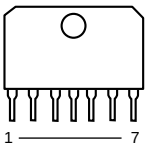


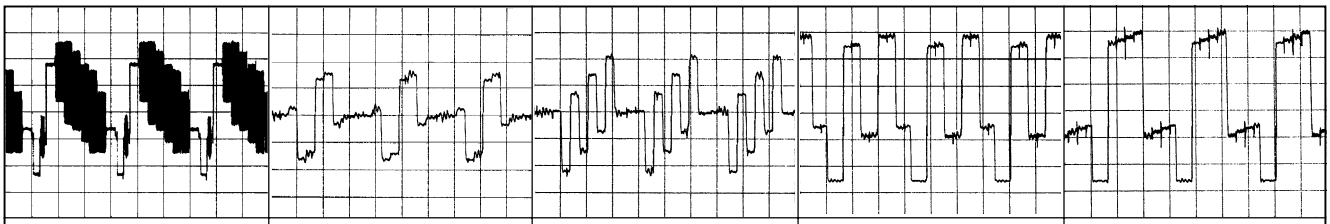
BA6209

BA7755

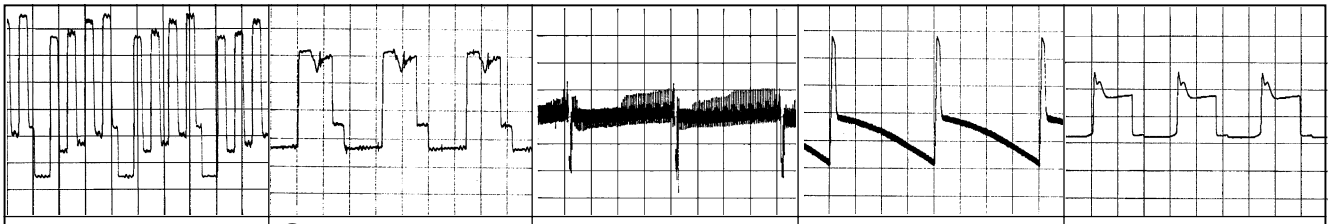


LA7830

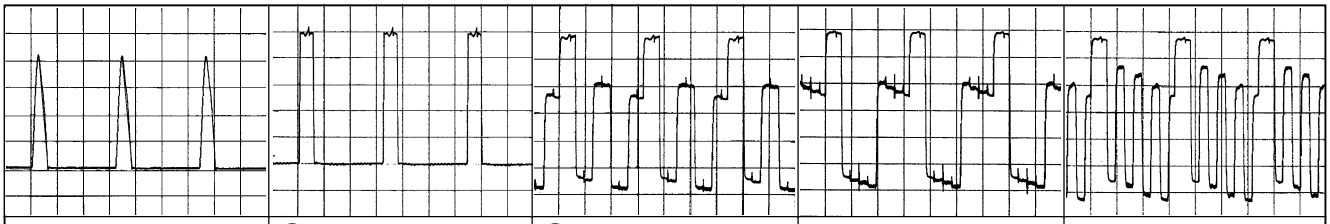
WAVEFORMS (VT-G14)



①	②	③	④	⑤
AC: 1.0Vp-p DC: 4.8V	AC: 0.7Vp-p DC: 1.7V	AC: 0.9Vp-p DC: 1.8V	AC: 2.7Vp-p DC: 1.2V	AC: 2.8Vp-p DC: 1.2V

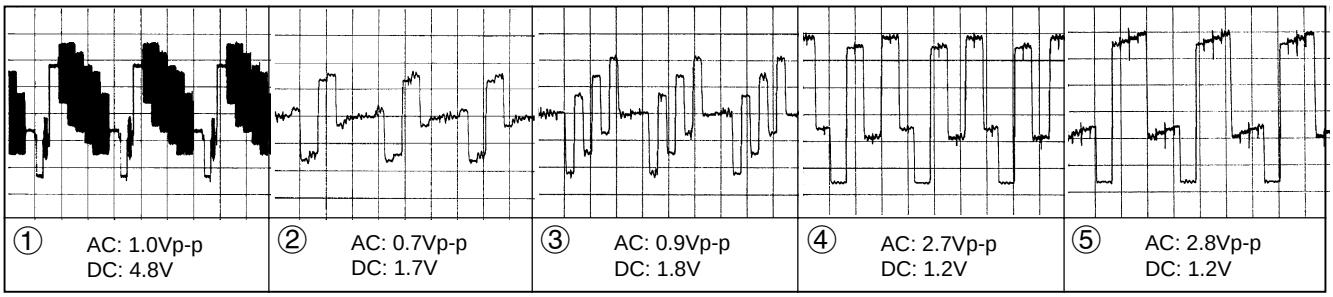


⑥	⑦	⑧	⑨	⑩
AC: 3.0Vp-p DC: 1.2V	AC: 1.8Vp-p DC: 0V	AC: 1.5Vp-p DC: 0V	AC: 47Vp-p DC: 2V	AC: 140Vp-p DC: 0V

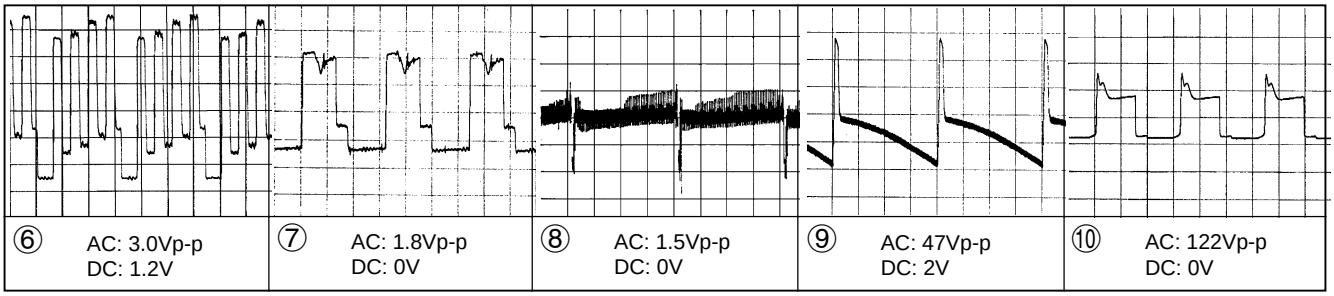


⑪	⑫	⑬	⑭	⑮
AC: 950Vp-p DC: 0V	AC: 1.0Vp-p DC: 0V	AC: 110Vp-p DC: 138V	AC: 110Vp-p DC: 135V	AC: 110Vp-p DC: 140V

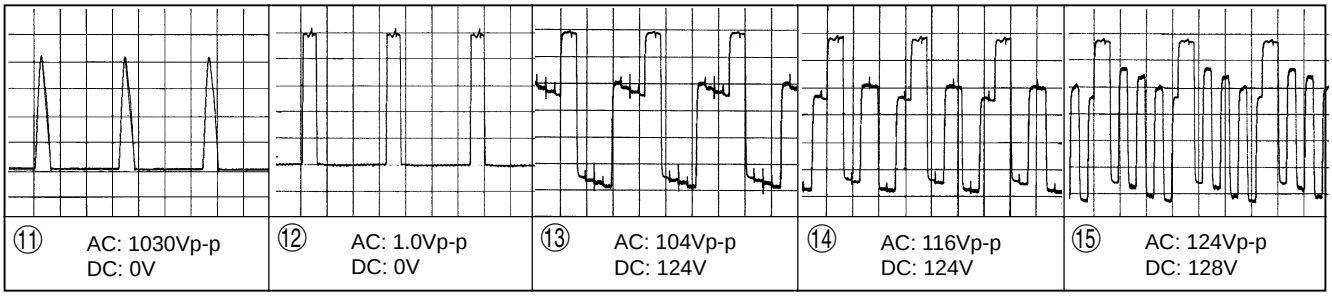
WAVEFORMS (VT-G21)



① AC: 1.0Vp-p DC: 4.8V	② AC: 0.7Vp-p DC: 1.7V	③ AC: 0.9Vp-p DC: 1.8V	④ AC: 2.7Vp-p DC: 1.2V	⑤ AC: 2.8Vp-p DC: 1.2V

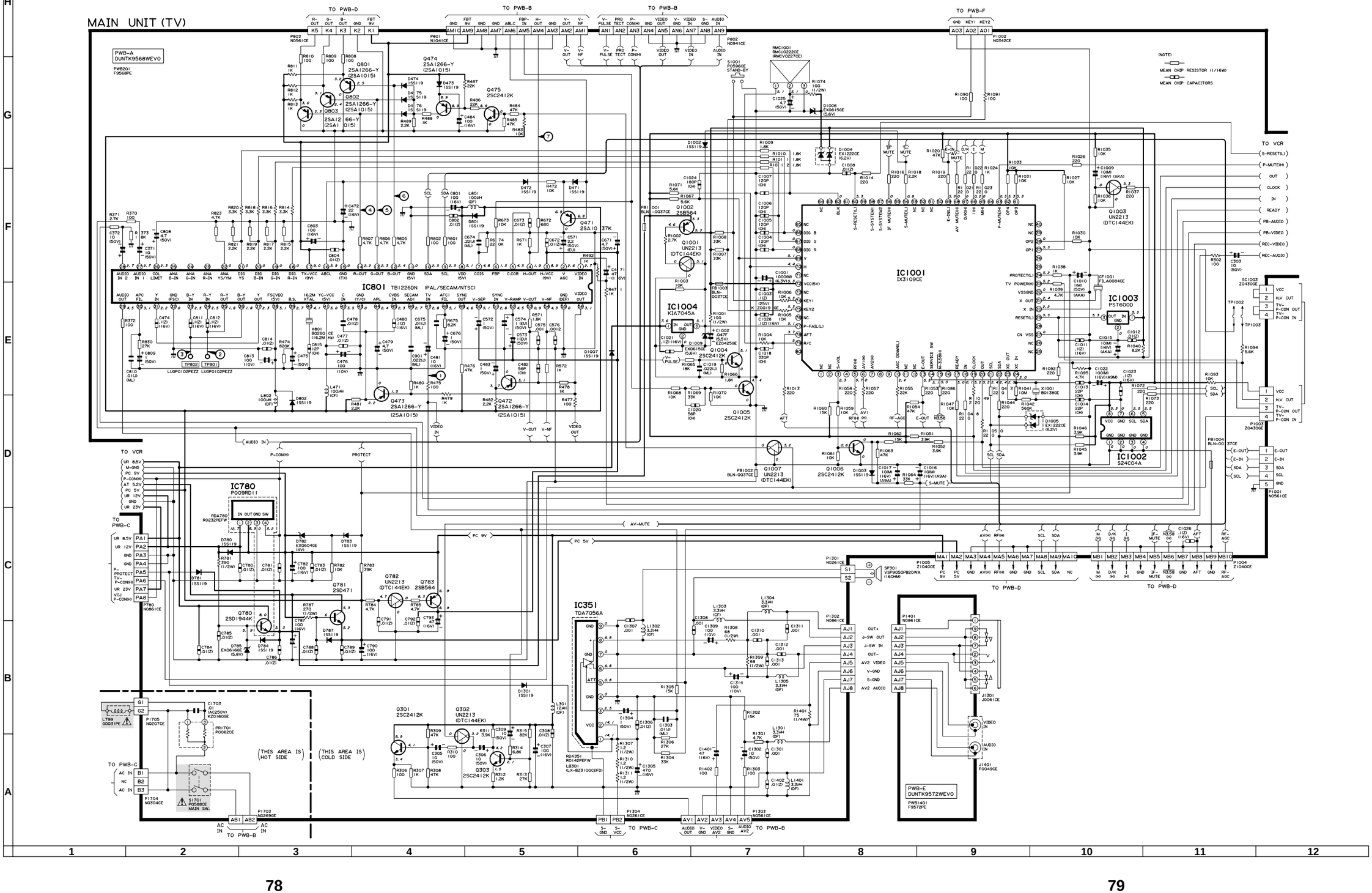


⑥ AC: 3.0Vp-p DC: 1.2V	⑦ AC: 1.8Vp-p DC: 0V	⑧ AC: 1.5Vp-p DC: 0V	⑨ AC: 47Vp-p DC: 2V	⑩ AC: 122Vp-p DC: 0V

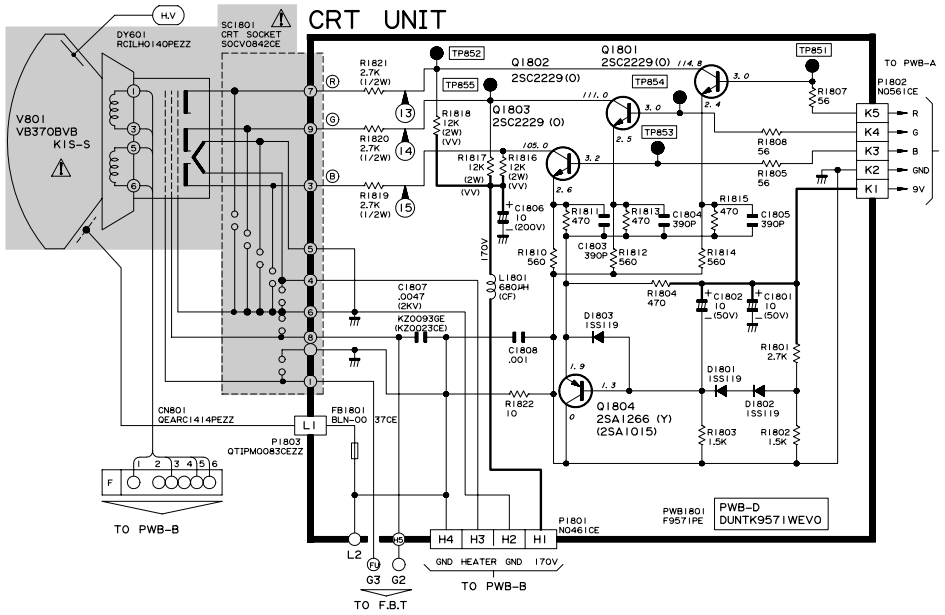


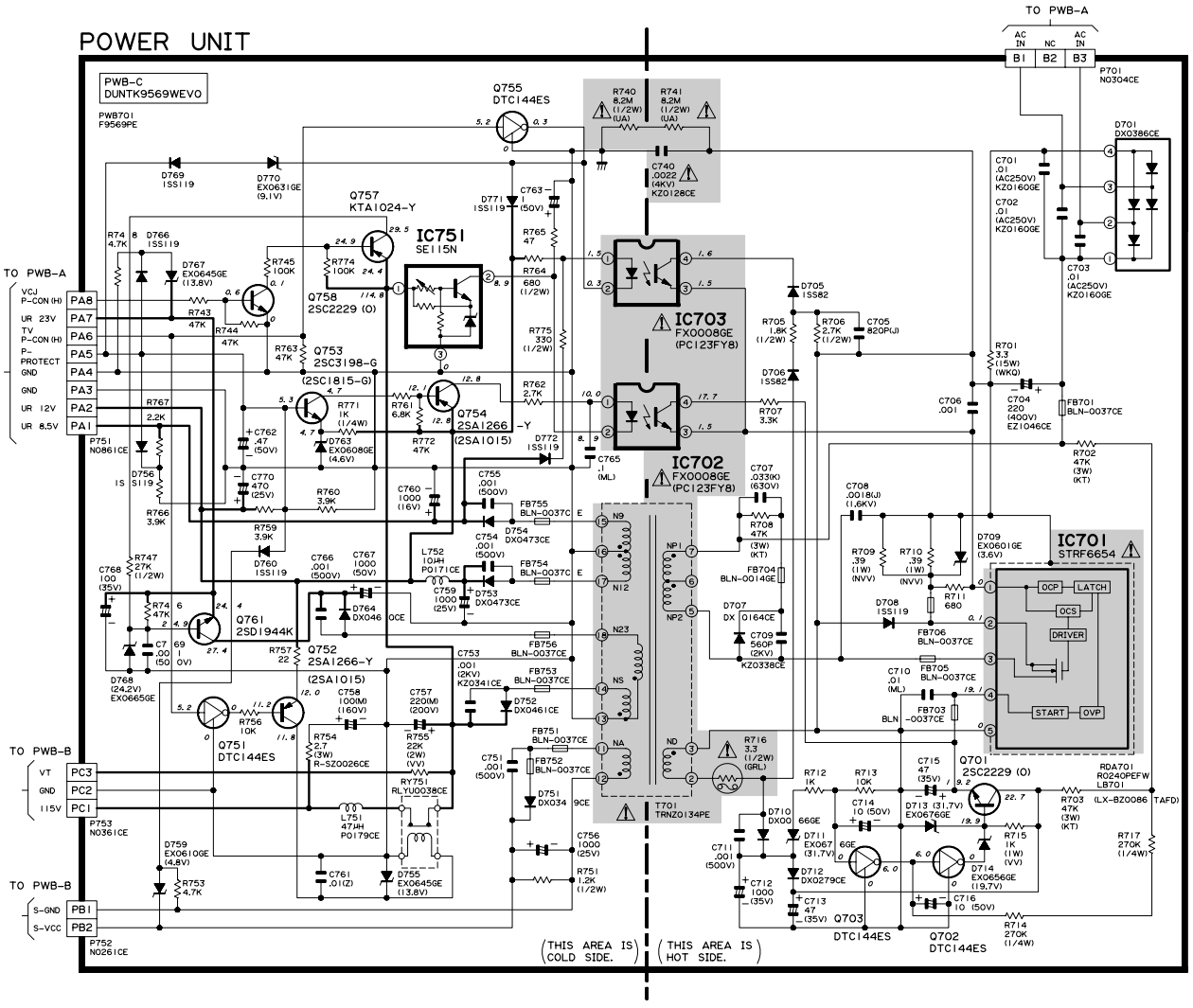
⑪ AC: 1030Vp-p DC: 0V	⑫ AC: 1.0Vp-p DC: 0V	⑬ AC: 104Vp-p DC: 124V	⑭ AC: 116Vp-p DC: 124V	⑮ AC: 124Vp-p DC: 128V

MODEL VT-G14 SCHEMATIC DIAGRAM OF TV SECTION; MAIN and FRONT AV Unit



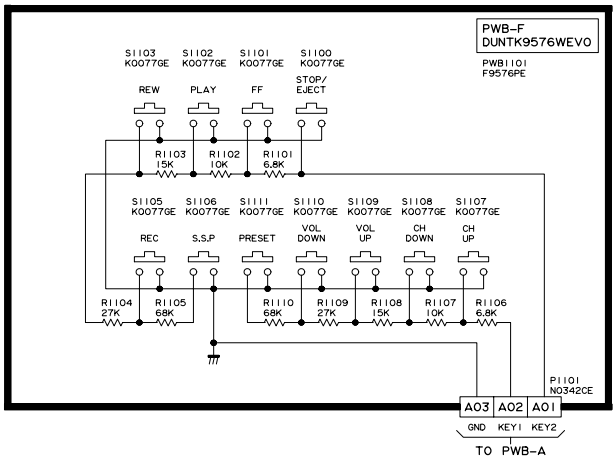
MODEL VT-G14 SCHEMATIC DIAGRAM OF TV SECTION; CRT and POWER Unit



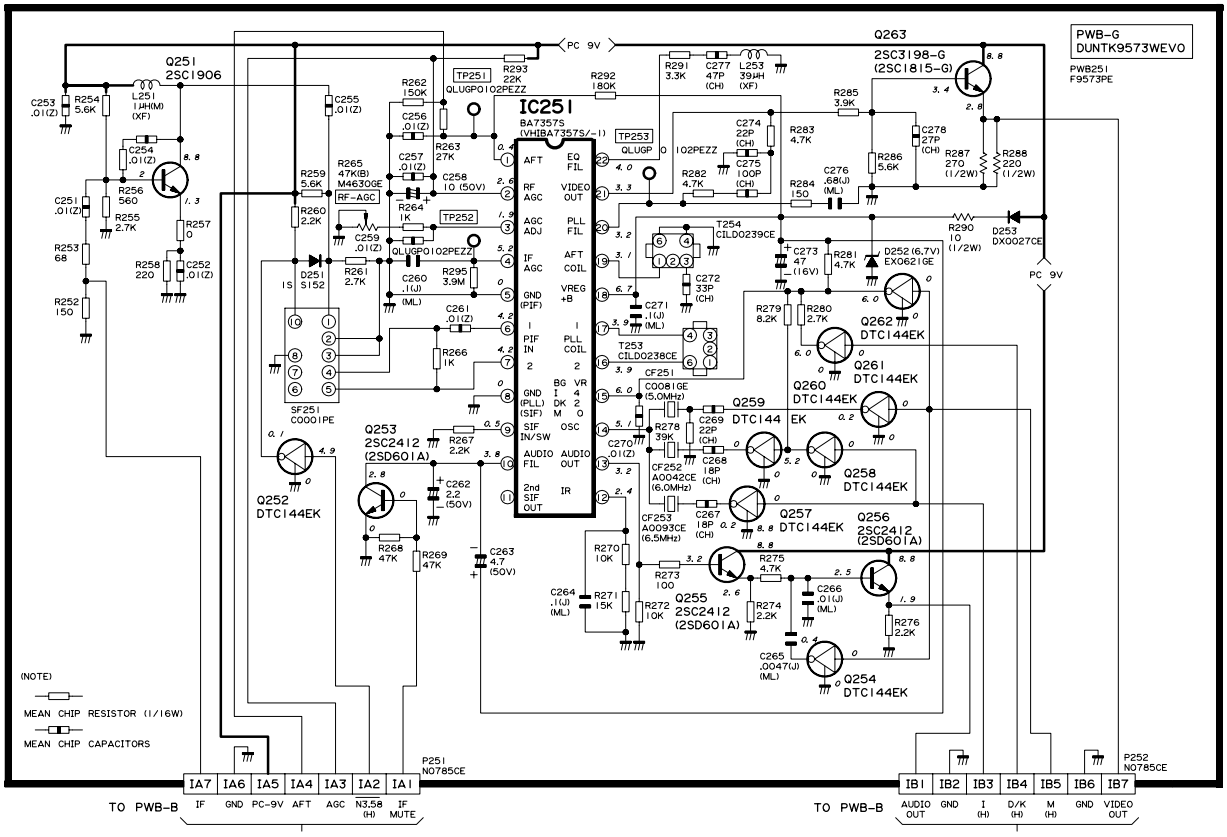


MODEL VT-G14 SCHEMATIC DIAGRAM OF TV SECTION; KEY and IF Unit

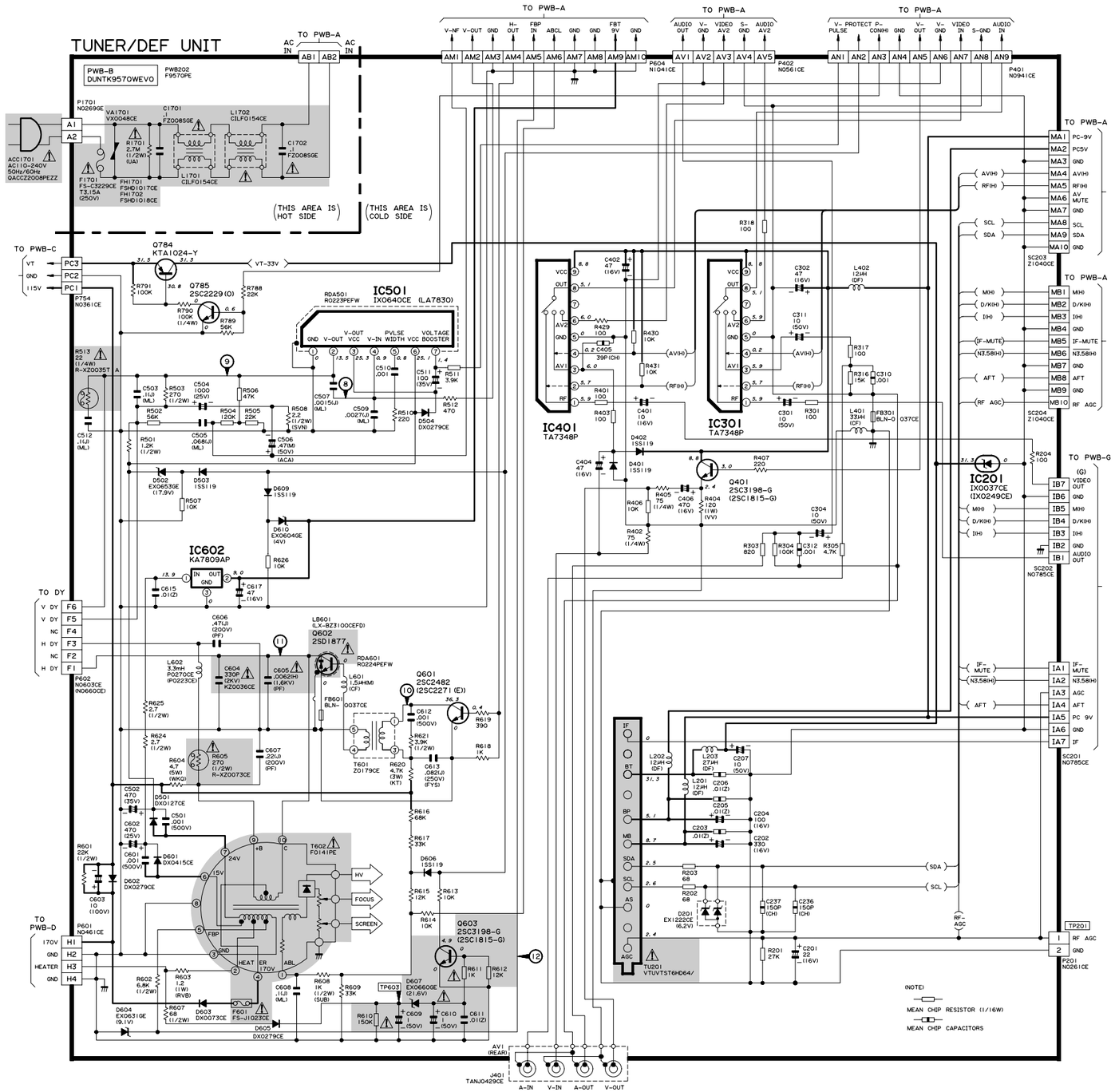
KEY UNIT



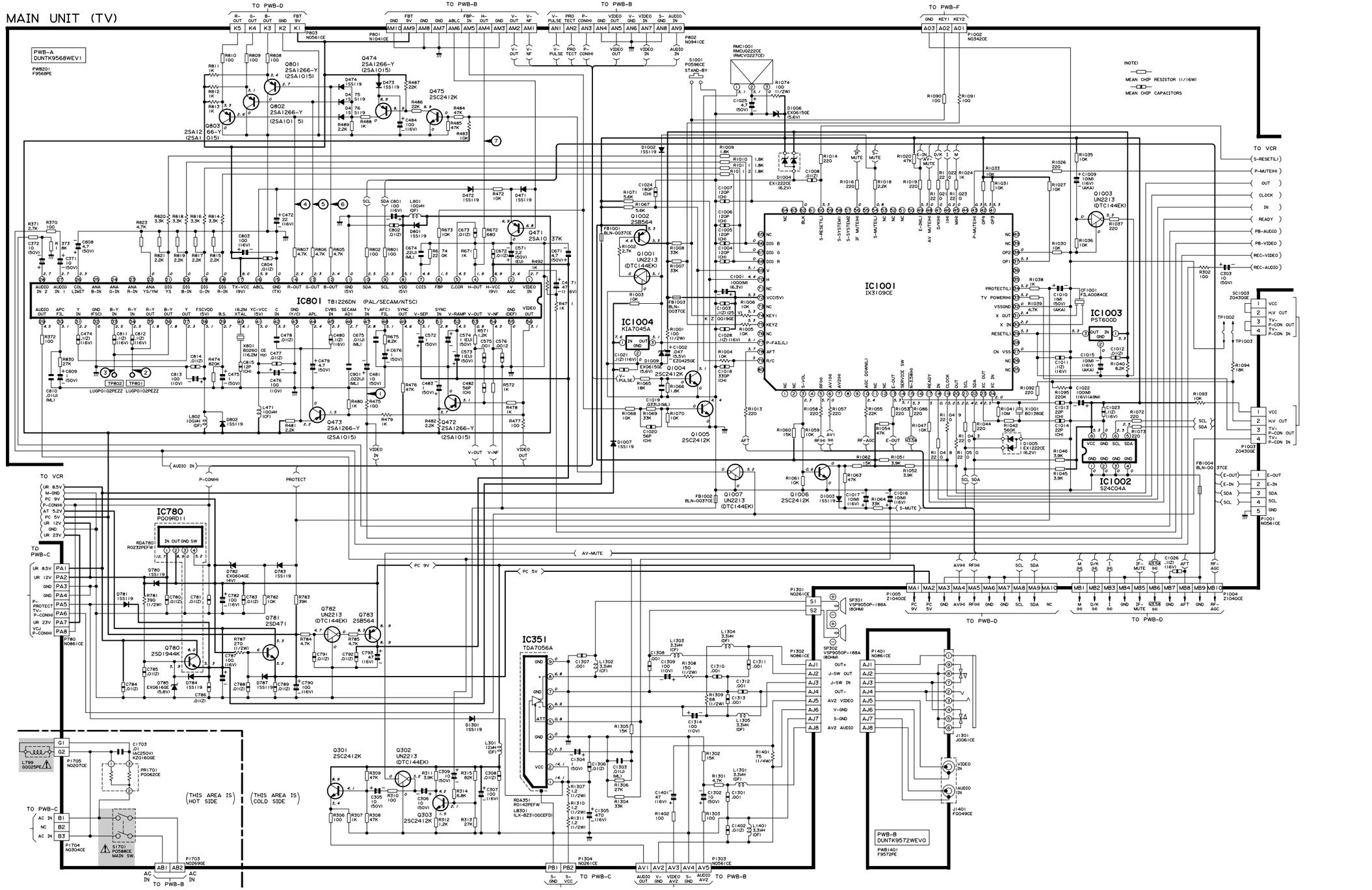
IF UNIT



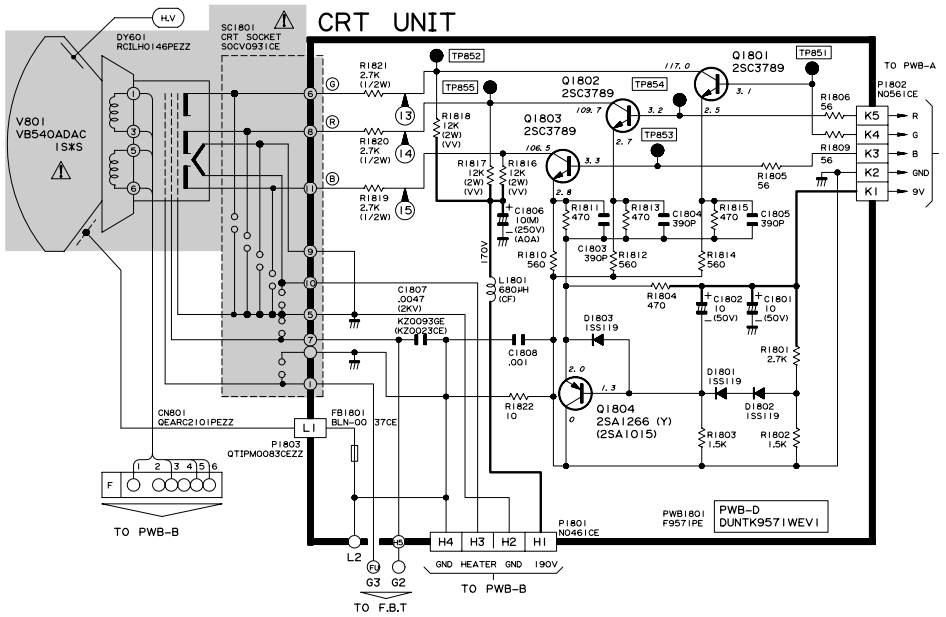
MODEL VT-G14 SCHEMATIC DIAGRAM OF TV SECTION; TUNER/DEF Unit

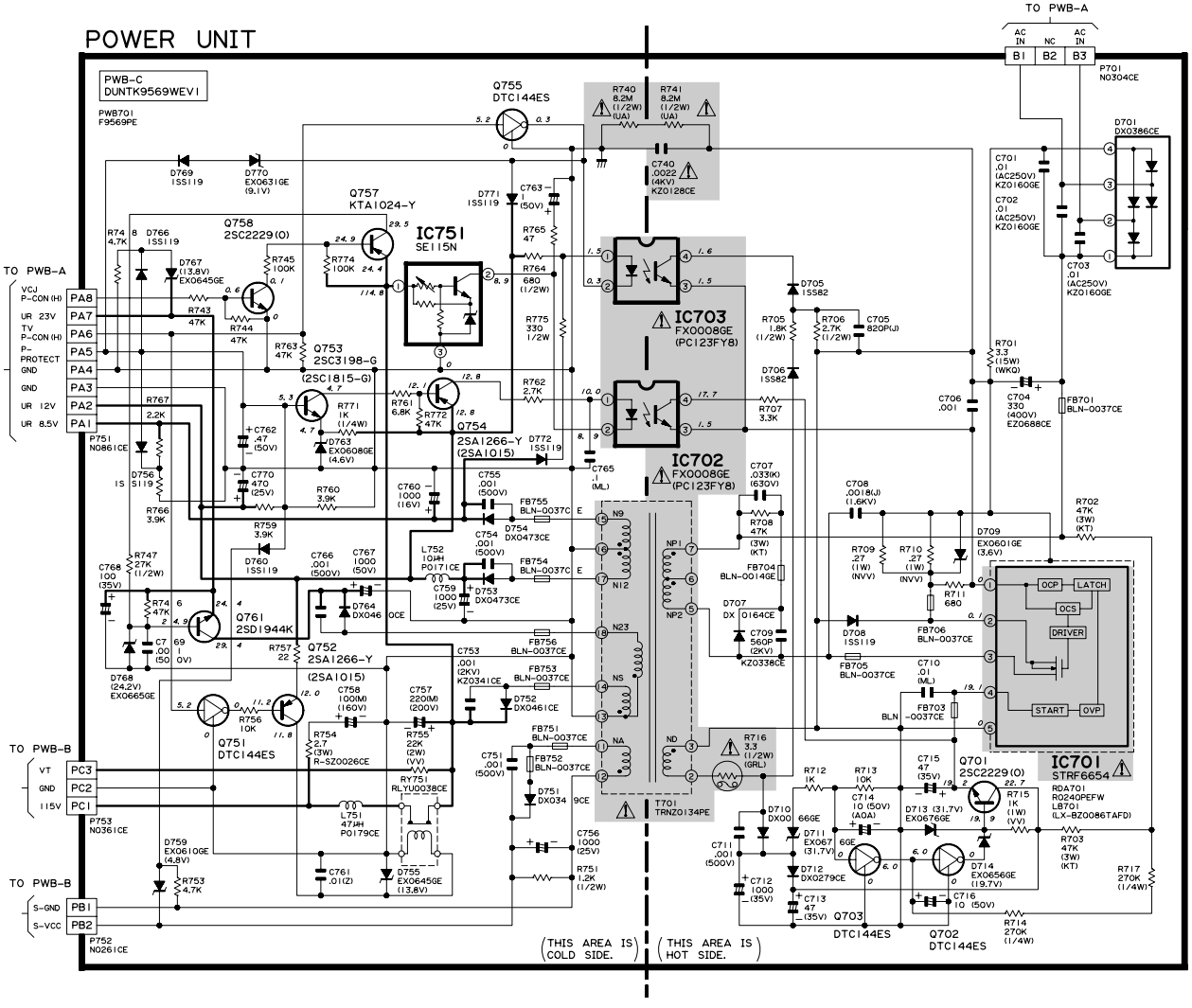


MODEL VT-G21 SCHEMATIC DIAGRAM OF TV SECTION;
MAIN and FRONT AV Unit



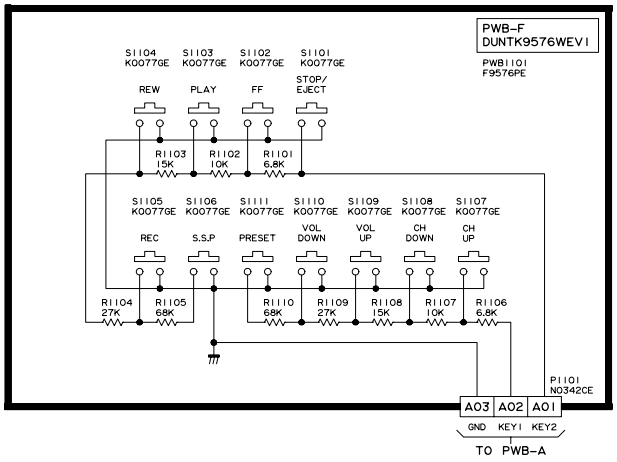
MODEL VT-G21 SCHEMATIC DIAGRAM OF TV SECTION; CRT and POWER Unit



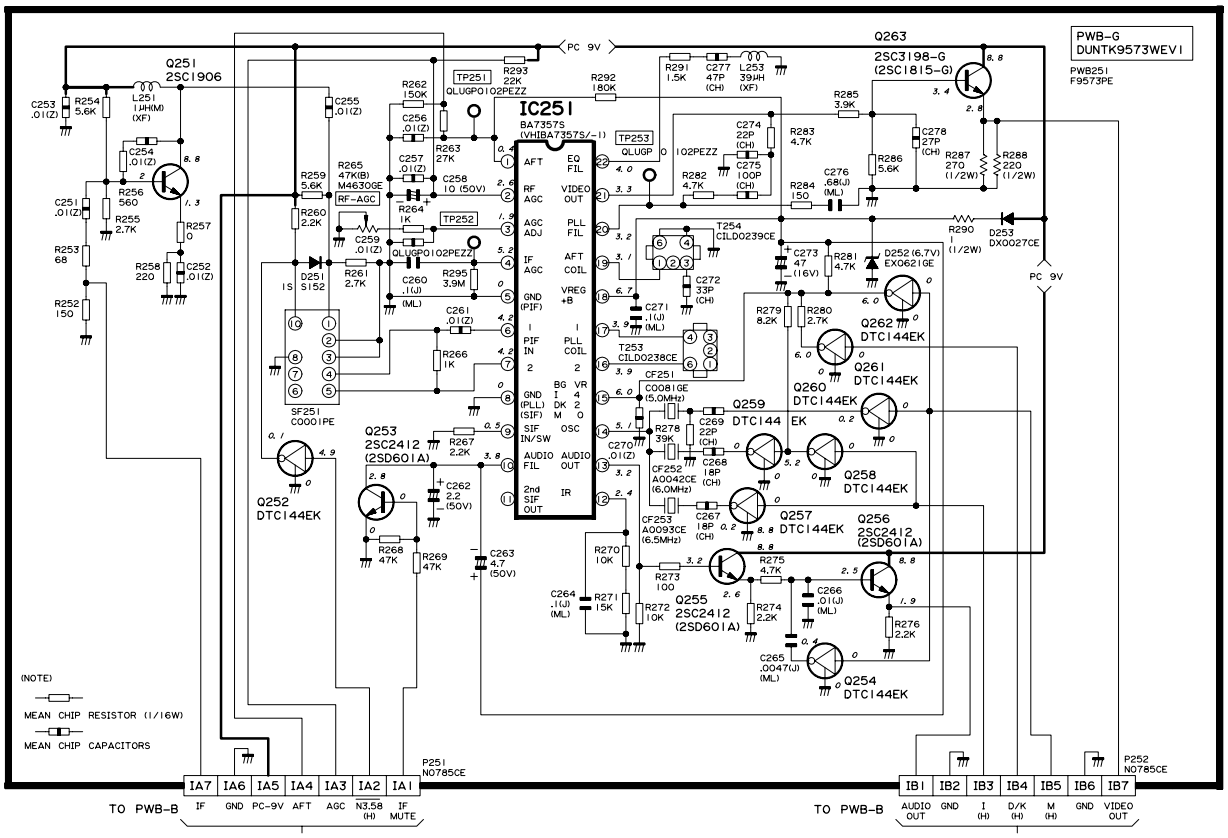


MODEL VT-G21 SCHEMATIC DIAGRAM OF TV SECTION; KEY and IF Unit

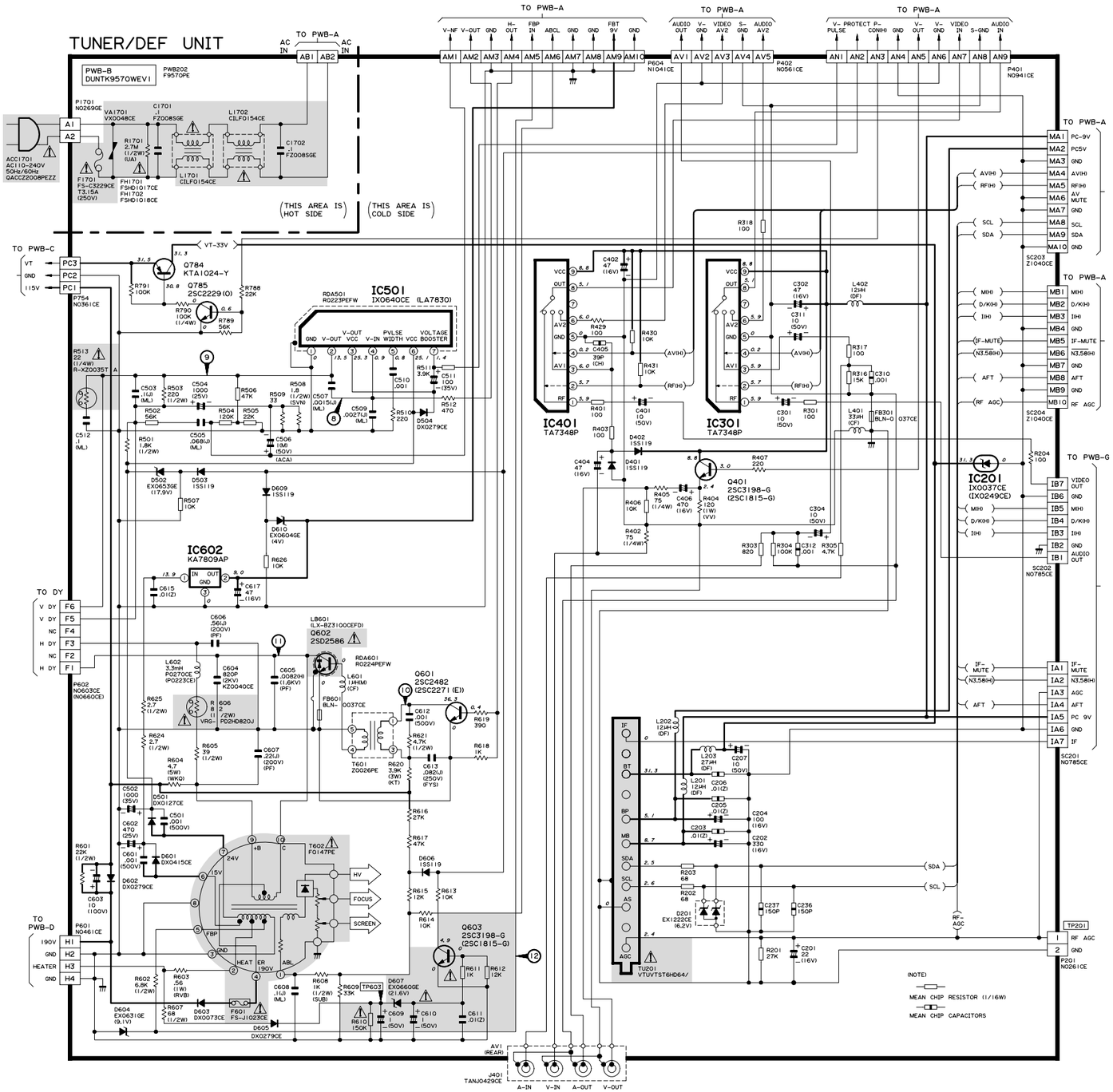
KEY UNIT



IF UNIT

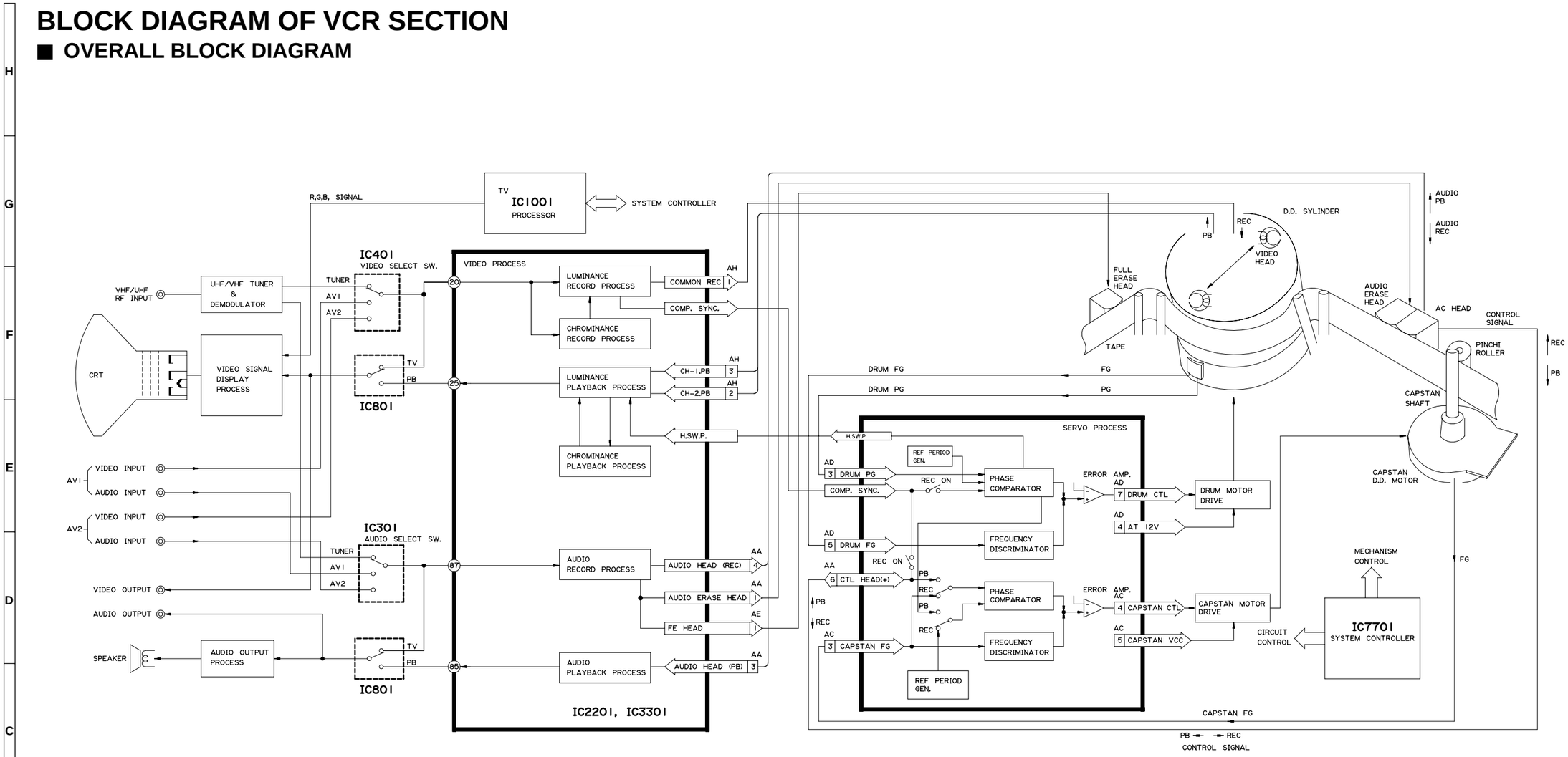


MODEL VT-G21 SCHEMATIC DIAGRAM OF TV SECTION; TUNER/DEF Unit



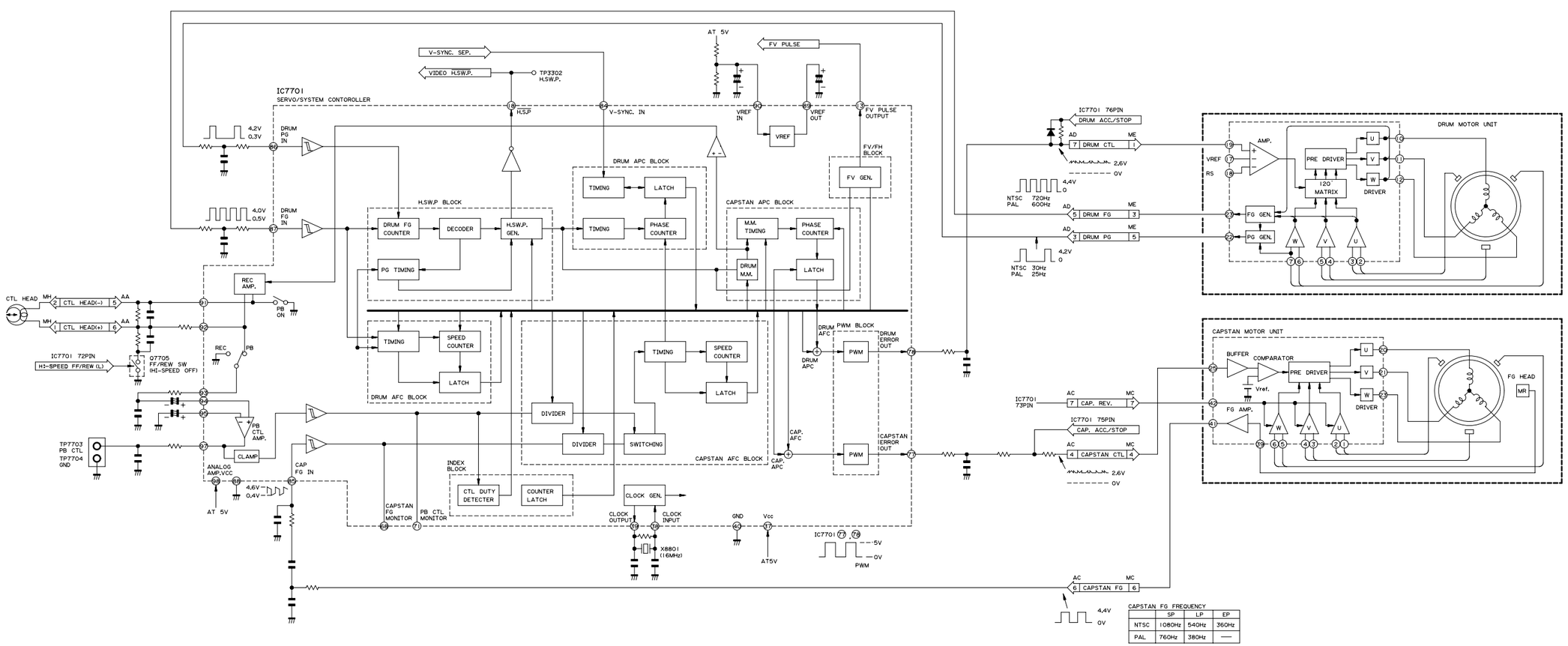
BLOCK DIAGRAM OF VCR SECTION

■ OVERALL BLOCK DIAGRAM



BLOCK DIAGRAM OF VCR SECTION

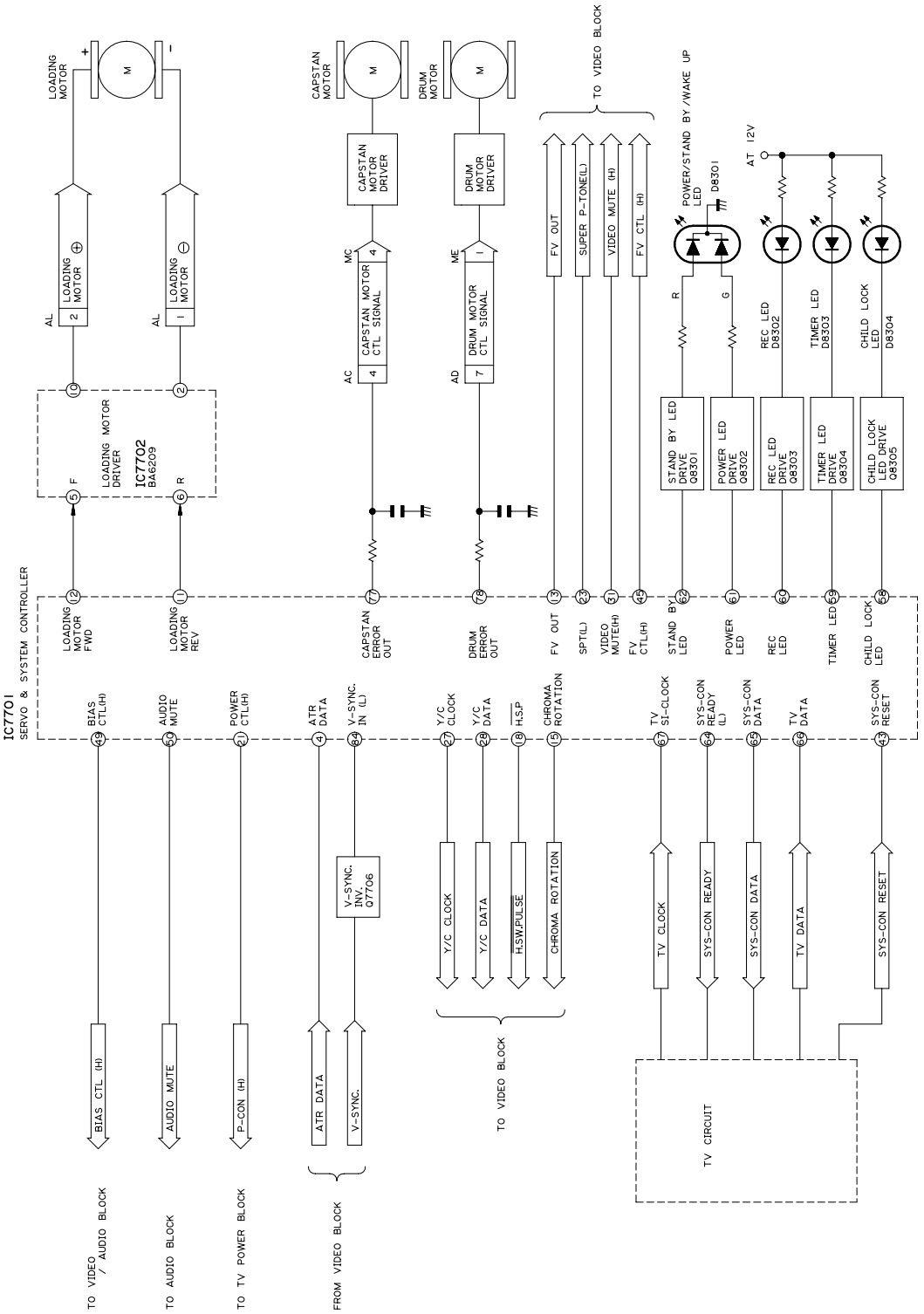
■ SERVO PROCESS BLOCK DIAGRAM



	SP	LP	EP
NTSC	1080Hz	540Hz	360Hz
PAL	760Hz	380Hz	—

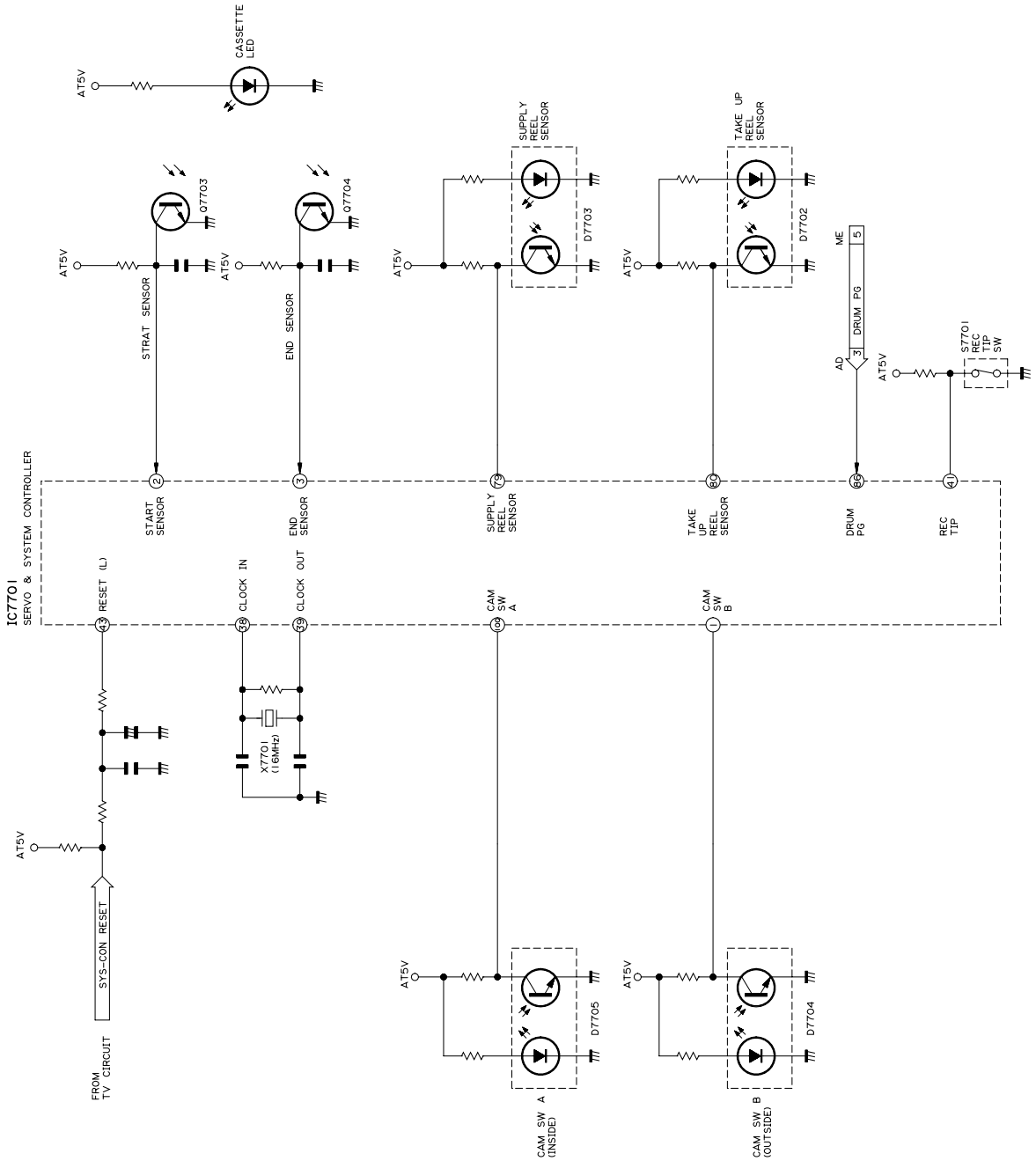
BLOCK DIAGRAM OF VCR SECTION

■ SYSTEM CONTROL BLOCK DIAGRAM



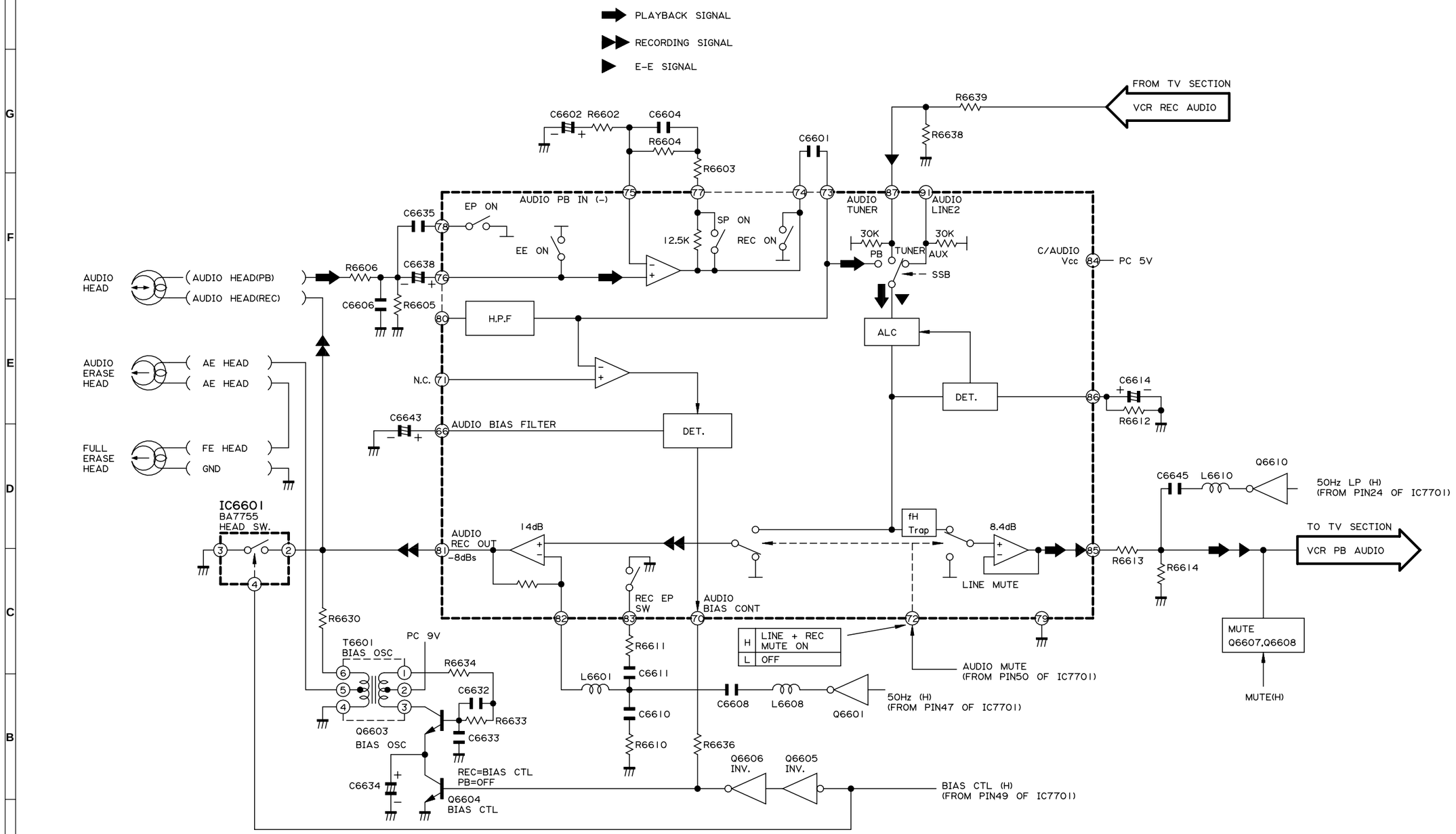
BLOCK DIAGRAM OF VCR SECTION

■ SAFETY DEVICE BLOCK DIAGRAM



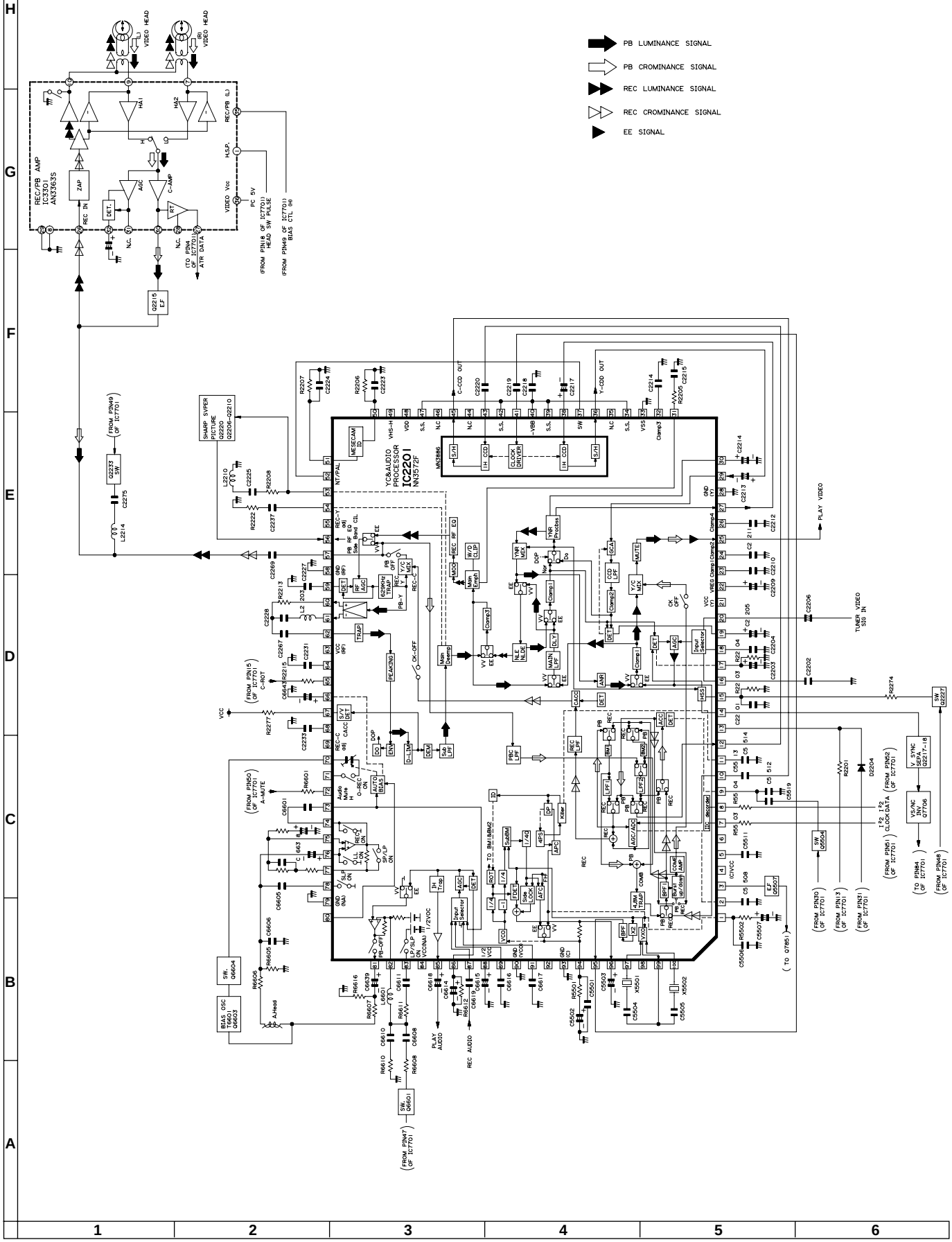
BLOCK DIAGRAM OF VCR SECTION

■ AUDIO BLOCK DIAGRAM



BLOCK DIAGRAM OF VCR SECTION

■ Y/C BLOCK DIAGRAM



DESCRIPTION OF VCR SECTION
SCHEMATIC DIAGRAM

IMPORTANT SAFETY NOTICE:

BE SURE TO USE GENUINE PARTS FOR SECURING THE SAFETY AND RELIABILITY OF THE SET.

PARTS MARKED WITH "⚠" AND PARTS SHADED (IN BLACK) ARE ESPECIALLY IMPORTANT FOR MAINTAINING THE SAFETY AND PROTECTING ABILITY OF THE SET.

BE SURE TO REPLACE THEM WITH PARTS OF SPECIFIED PART NUMBER.

SAFETY NOTE:

1. ***DISCONNECT THE AC PLUG FROM THE AC OUTLET BEFORE REPLACEING PARTS.***
2. ***SEMICONDUCTOR HEAT SINKS SHOULD BE REGARDED AS POTENTIAL SHOCK HAZARDS WHEN THE CHASSIS IS OPERATING.***

NOTES:

1. The unit of resistance "Ω" is omitted. (K = kΩ = 1,000 Ω, M = MΩ).
2. All resistors are 1/16 watt, unless otherwise noted.
3. The unit of capacitance "F" is omitted. (μ = μF, P = μμF).
4. The values in parentheses are the ones in the PB mode; the values without parentheses are the ones in the REC mode.

VOLTAGE MEASUREMENT CONDITIONS:

1. DC voltages are measured between points indicated and chassis ground by VTVM, with AC 220 ~ 240V, 50/60Hz supplied to unit and all controls are set to normal viewing picture unless otherwise noted.
2, Voltages are measured with 10,000μV B&W or colour signal.

WAVEFORM MEASUREMENT CONDITIONS :

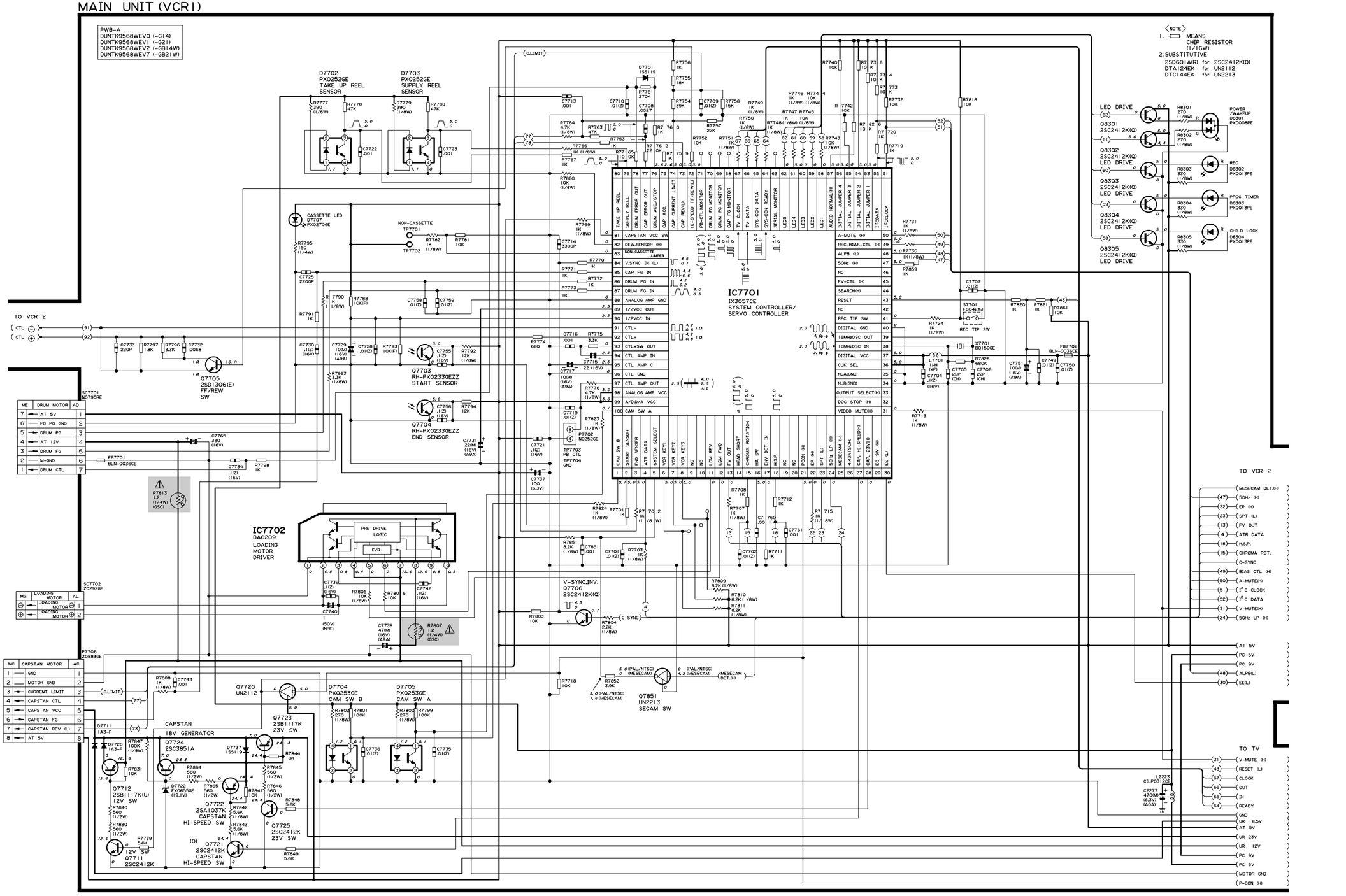
10,000μV, 87.5% modulated colour bar signal is fed into tuner.

CAUTION:

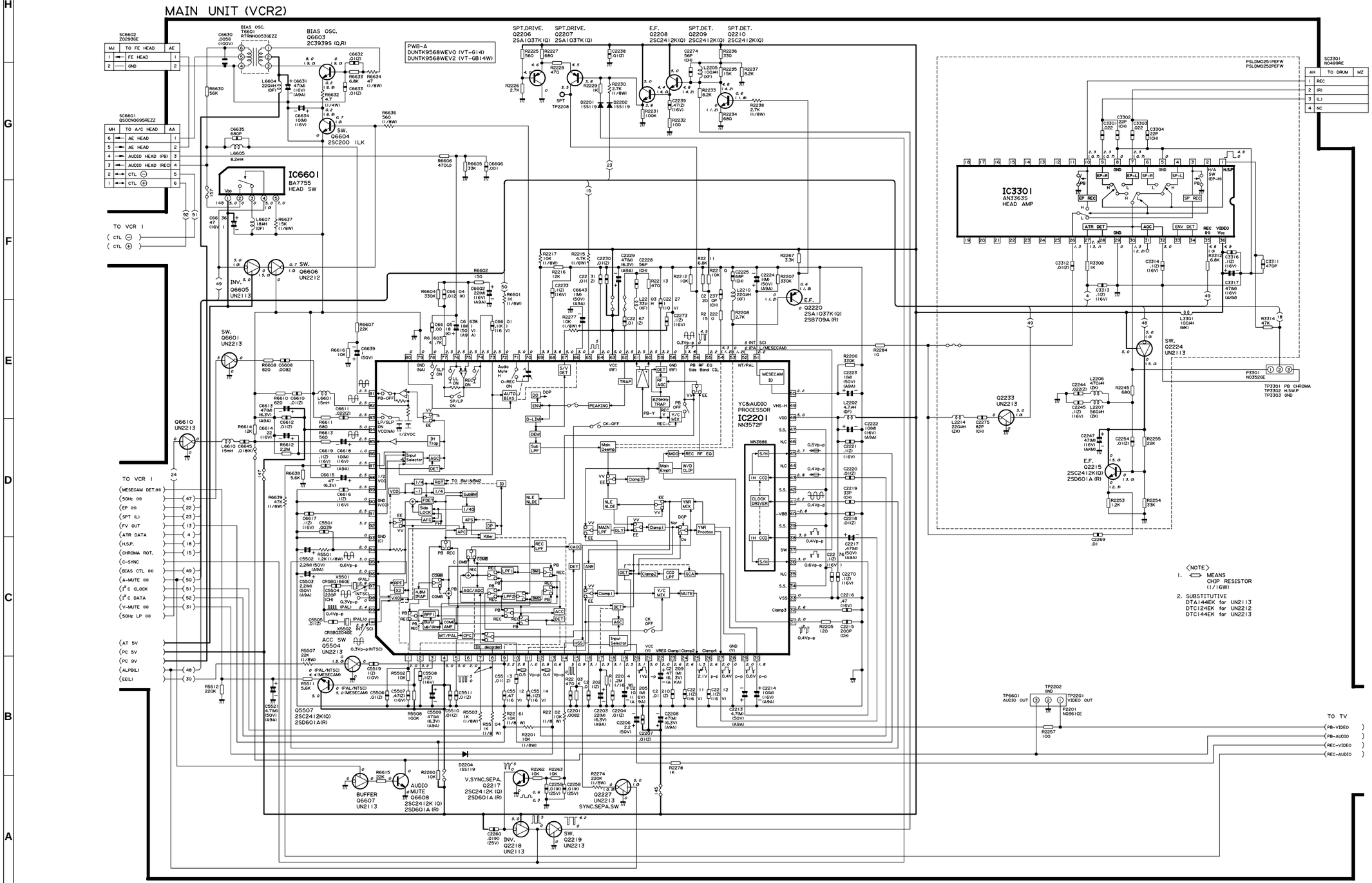
This circuit diagram is original one. Therefore there may be a slight difference from yours.

SCHEMATIC DIAGRAM OF VCR SECTION; VCR-1 Unit

MAIN UNIT (VCR1)

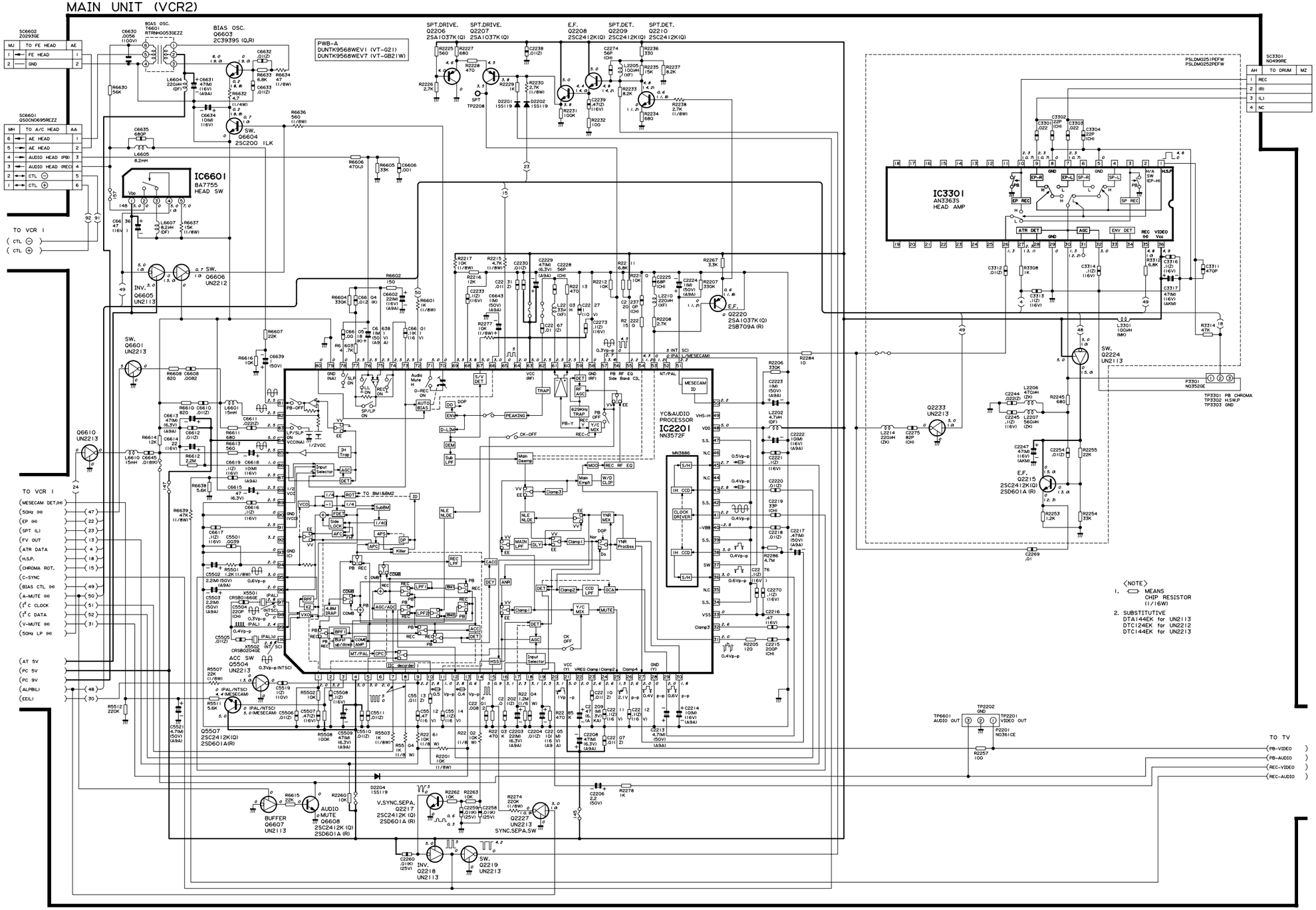


MODEL VT-G14 SCHEMATIC DIAGRAM OF VCR SECTION;
VCR-2 Unit

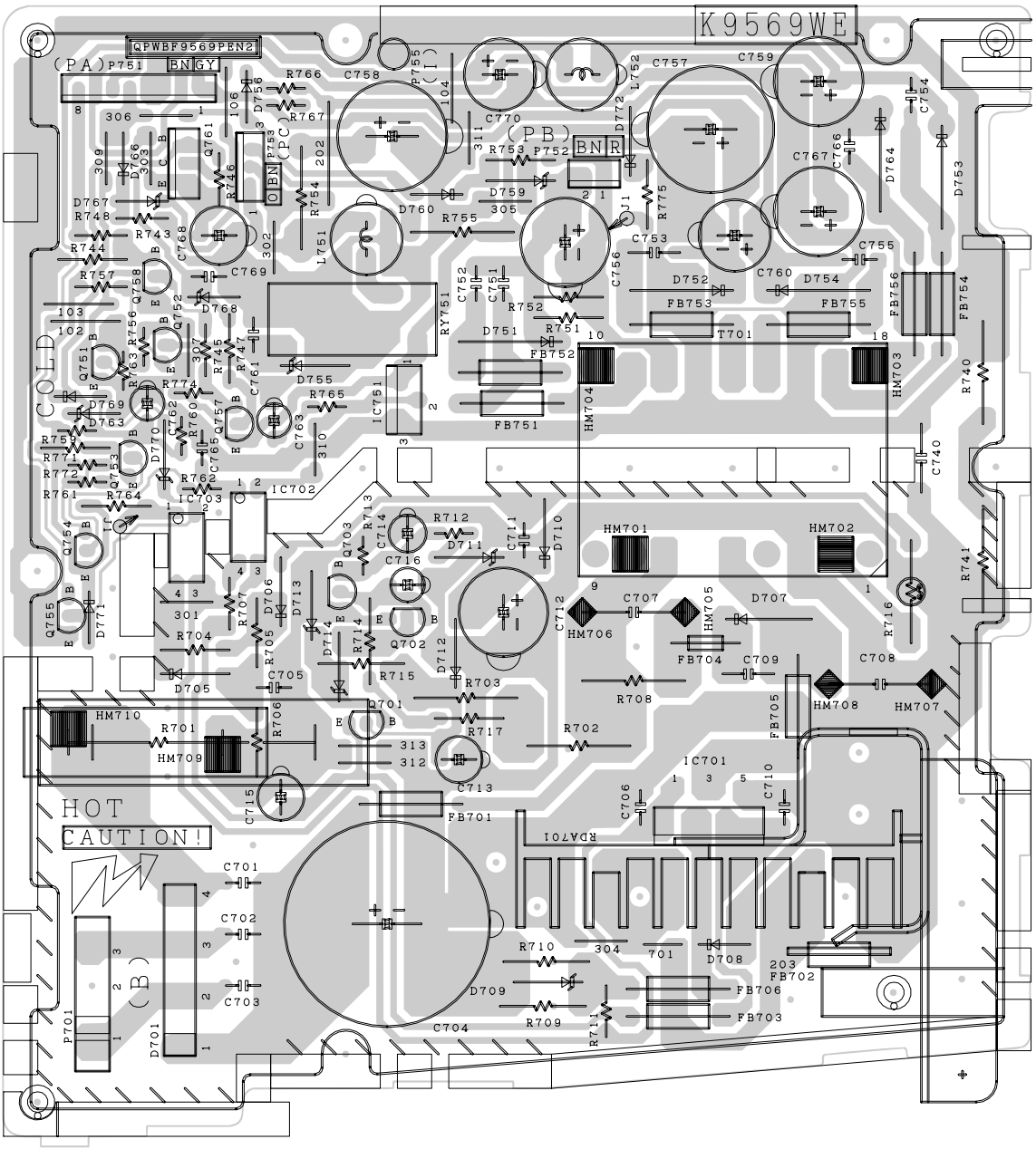


MODEL VT-G21 SCHEMATIC DIAGRAM OF VCR SECTION;
VCR-2 Unit

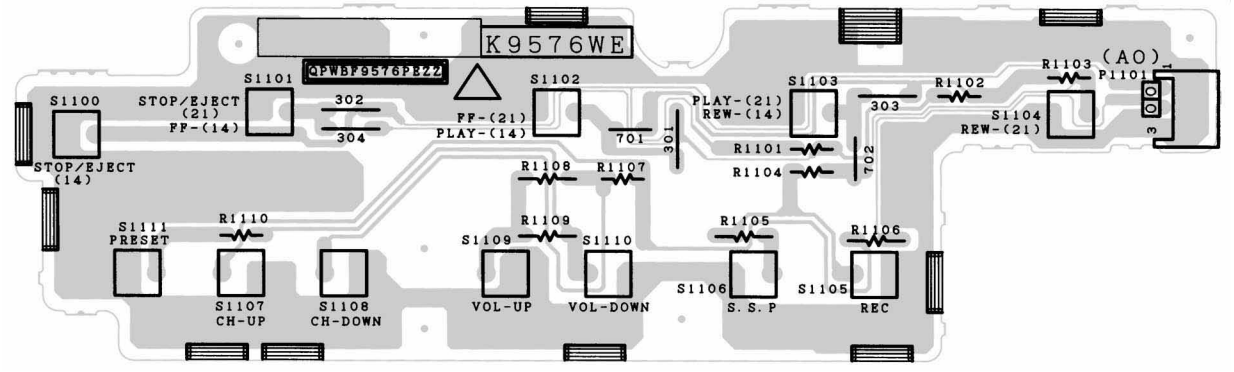
MAIN UNIT (VCR2)



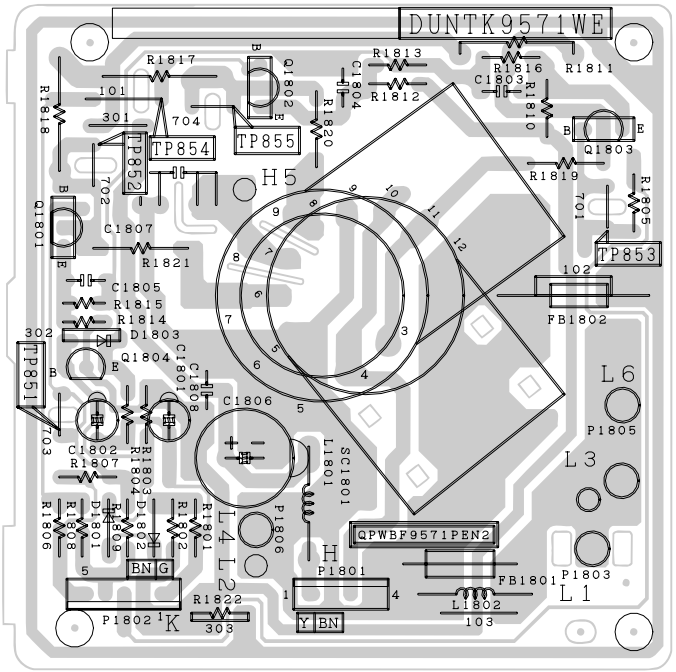
PRINTED WIRING BOARD ASSEMBLIES



PWB-C: POWER Unit (Wiring Side)

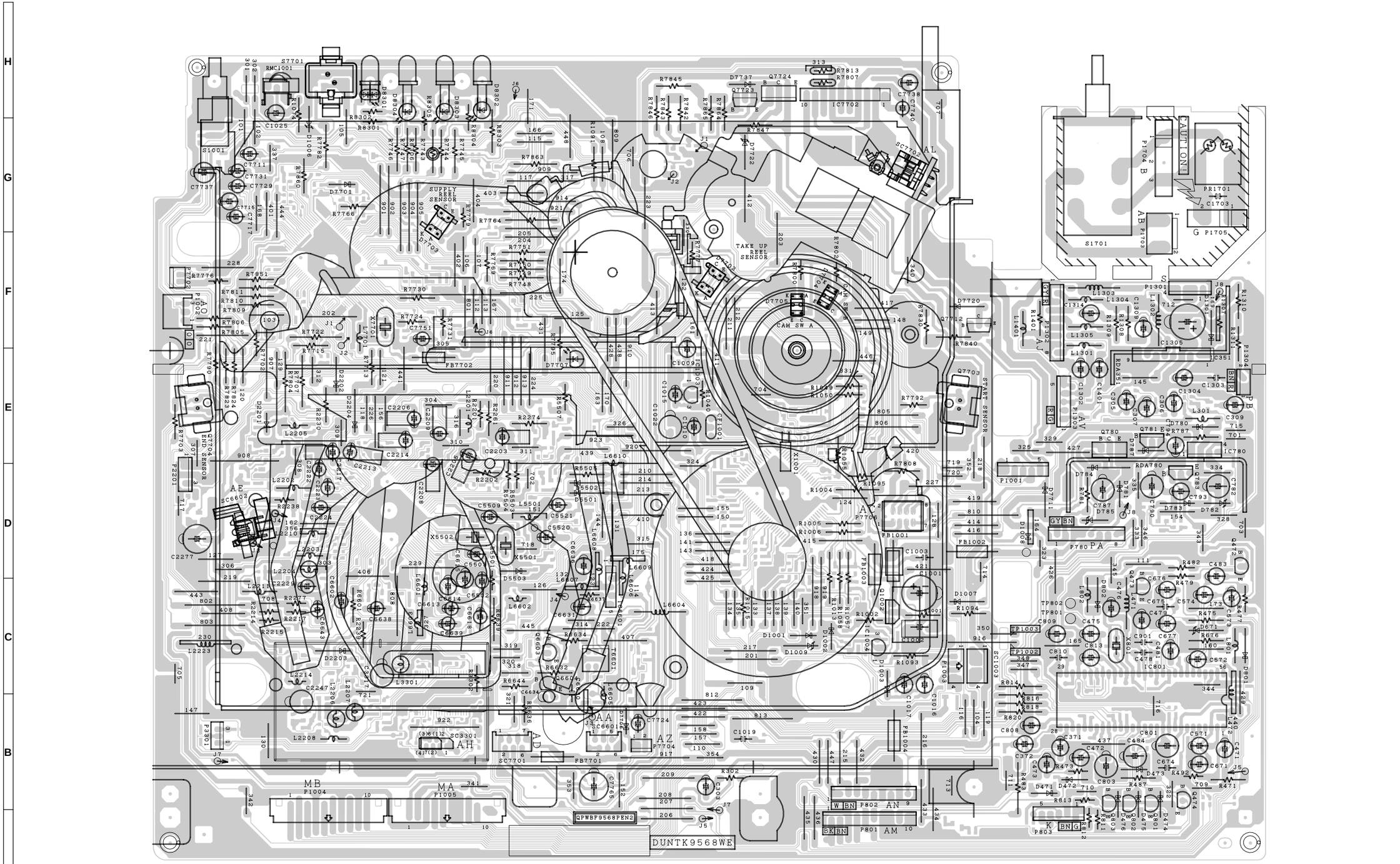


PWB-F: KEY Unit (Wiring Side)

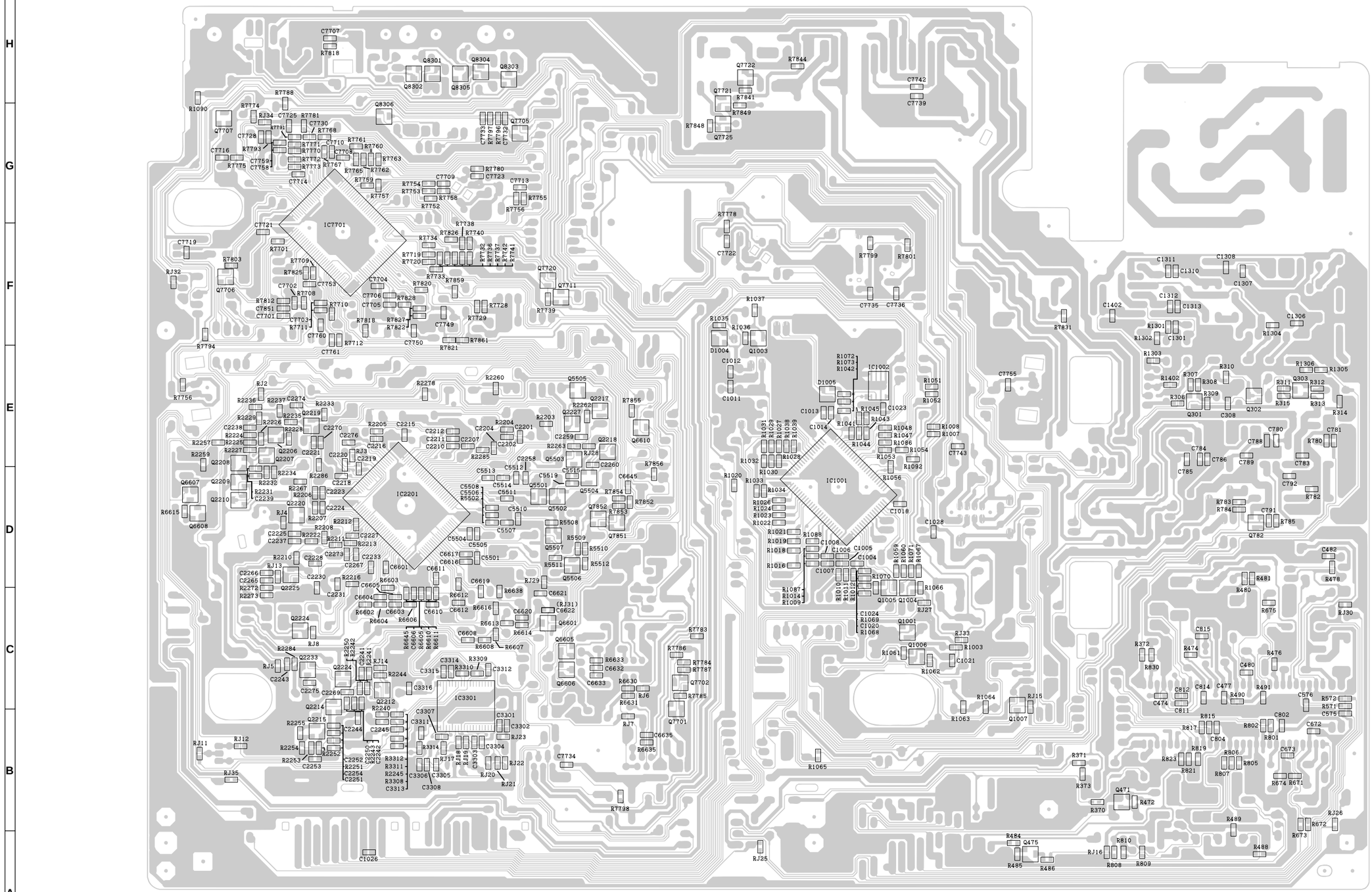


PWB-D: CRT Unit (Wiring Side)

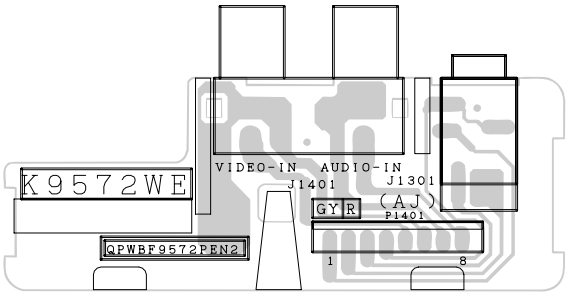
1	2	3	4	5	6



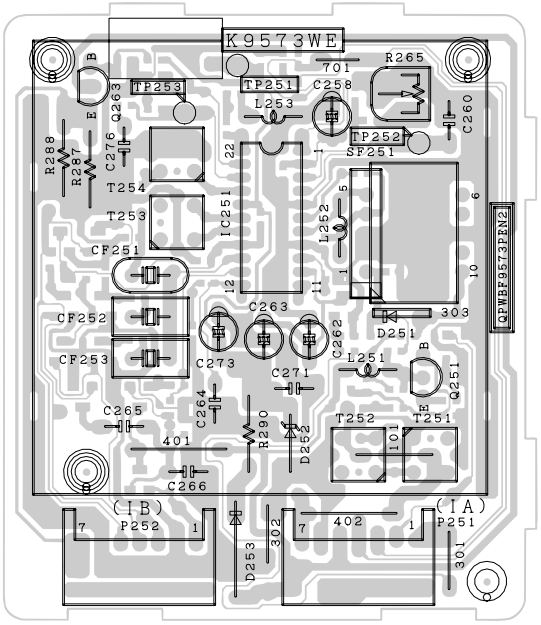
PWB-A: MAIN Unit (Wiring Side)



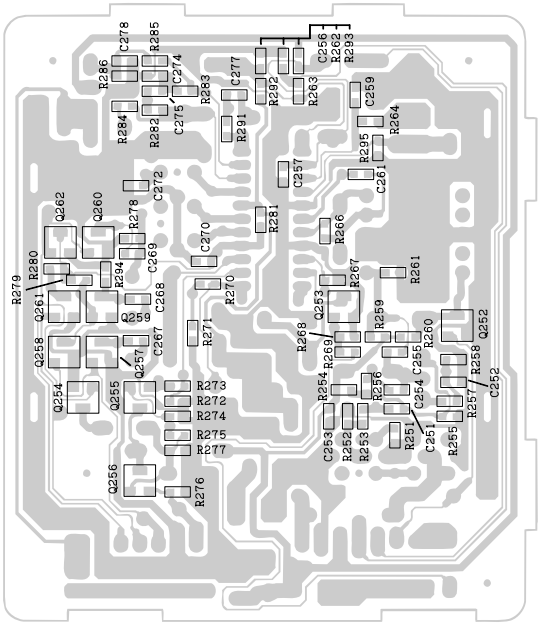
PWB-A: MAIN Unit (Chip Parts Side)



PWB-E: FRONT AV Unit (Wiring Side)

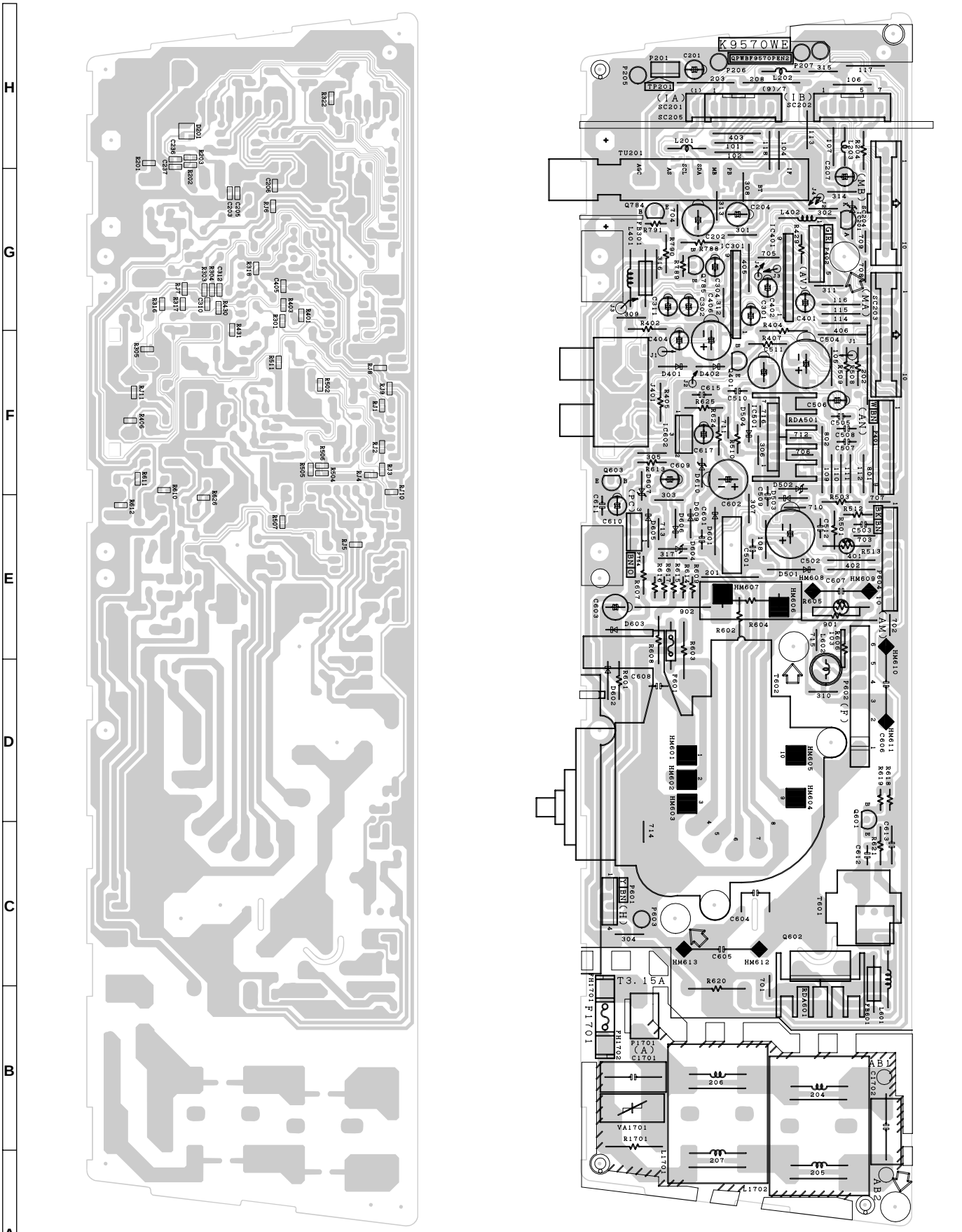


(Wiring Side)



(Chip Parts Side)

PWB-G: IF Unit



PWB-B: TUNER/DEF Unit

PARTS LIST

PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual: electrical components having such features are identified by "⚠" in the Replacement Parts Lists.
The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER 2. REF. NO.
3. PART NO. 4. DESCRIPTION

MARK ★: SPARE PARTS-DELIVERY SECTION

Ref. No.	Part No.	★	Description	Code

PRINTED WIRING BOARD ASSEMBLIES (NOT REPLACEMENT ITEM)

MODEL VT-G14

PWB-A	DUNTK9568WEV0	–	Main Unit	—
PWB-B	DUNTK9570WEV0	–	TUNER/DEF Unit	—
PWB-C	DUNTK9569FMV0	–	Power Unit	—
PWB-D	DUNTK9571WEV0	–	CRT Unit	—
PWB-E	DUNTK9572WEV0	–	FRONT AV Unit	—
PWB-F	DUNTK9576WEV0	–	KEY Unit	—
PWB-G	DUNTK9573WEV0	–	IF Unit	—

MODEL VT-G21

PWB-A	DUNTK9568WEV1	–	Main Unit	—
PWB-B	DUNTK9570WEV1	–	TUNER/DEF Unit	—
PWB-C	DUNTK9569WEV1	–	Power Unit	—
PWB-D	DUNTK9571WEV1	–	CRT Unit	—
PWB-E	DUNTK9572WEV0	–	FRONT AV Unit	—
PWB-F	DUNTK9576WEV1	–	KEY Unit	—
PWB-G	DUNTK9573WEV1	–	IF Unit	—

PICTURE TUBE

MODEL VT-G14

⚠ V801	VB370BVBK1S-S	R	Picture Tube (14")	BZ
⚠ DY601	RCiLH0140PEZZ	R	Deflection Yoke	BC
⚠ L799	RCiLG0031PEZZ	R	Degaussing Coil	AN
	or			
	RCiLG0080PEZZ	R	Degaussing Coil	AL

MODEL VT-G21

⚠ V801	VB540ADAC1S*S	R	Picture Tube (21")	CG
⚠ DY601	RCiLH0146PEZZ	R	Deflection Yoke	BF
⚠ L799	RCiLG0025PEZZ	R	Degaussing Coil	AW
	or			
	RCiLG0069PEZZ	R	Degaussing Coil	AR

Ref. No.	Part No.	★	Description	Code

PWB-A: DUNTK9568WEV0/V1
MAIN UNIT

INTEGRATED CIRCUITS

IC351	VHiTDA7056A-1	R	Audio Amp.	AP
IC780	VHiPQ09RD11-1	R	9V Regulator	AG
IC801	VHiTB1226DN-1	R	PAL/SECAM/NTSC	BB
IC1001	RH-iX3109CEZZ	R	MPU	BE
IC1002	VHiS24C04A/-1	R	EEP ROM	AL
IC1003	VHiPST600D/-1	R	Reset-IC	AD
IC1004	VHiKiA7045A-1	R	5V Regulator	AE
IC2201	VHiNN3572F/-1	R	YC/Audio Processor	BA
IC3301	VHiAN3363S/-1	R	Head Amp.	AH
IC6601	VHiBA7755//-1	R	Head Switch	AD
IC7701	RH-iX3057CEZZ	R	Servo/System Controller	BA
IC7702	VHiBA6209//1E	R	Loading Motor Driver	AG

TRANSISTORS

Q301	VS2SC2412KQ-1	R	2SC2412K	AA
Q302	VSUN2213///-1	R	UN2213	AA
Q303	VS2SC2412KQ-1	R	2SC2412K	AA
Q471	VS2SA1037KQ-1	R	2SA1037K	AA
Q472	VS2SA1266-Y-1	R	2SA1266(Y)	AA
Q473	VS2SA1266-Y-1	R	2SA1266(Y)	AA
Q474	VS2SA1266-Y-1	R	2SA1266(Y)	AA
Q475	VS2SC2412KQ-1	R	2SC2412K	AA
Q780	VS2SD1944K/-1	R	2SD1944K	AE
Q781	VS2SD471-KL1E	R	2SD471	AC
Q782	VSUN2213///-1	R	UN2213	AA
Q783	VS2SB564-KL-1	R	2SB564	AC
Q801	VS2SA1266-Y-1	R	2SA1266(Y)	AA
Q802	VS2SA1266-Y-1	R	2SA1266(Y)	AA
Q803	VS2SA1266-Y-1	R	2SA1266(Y)	AA
Q1001	VSUN2213///-1	R	UN2213	AA
Q1002	VS2SB564-KL-1	R	2SB564	AC
Q1003	VSUN2213///-1	R	UN2213	AA
Q1004	VS2SC2412KQ-1	R	2SC2412K	AA
Q1005	VS2SC2412KQ-1	R	2SC2412K	AA
Q1006	VS2SC2412KQ-1	R	2SC2412K	AA
Q1007	VSUN2213///-1	R	UN2213	AA
Q2206	VS2SA1037KQ-1	R	2SA1037K	AA
Q2207	VS2SA1037KQ-1	R	2SA1037K	AA
Q2208	VS2SC2412KQ-1	R	2SC2412K	AA
Q2209	VS2SC2412KQ-1	R	2SC2412K	AA
Q2210	VS2SC2412KQ-1	R	2SC2412K	AA
Q2215	VS2SC2412KQ-1	R	2SC2412K	AA
Q2217	VS2SC2412KQ-1	R	2SC2412K	AA
Q2218	VSUN2113///-1	R	UN2113	AA
Q2219	VSUN2213///-1	R	UN2213	AA
Q2220	VS2SA1037KQ-1	R	2SA1037K	AA
Q2224	VSUN2113///-1	R	UN2113	AA
Q2227	VSUN2213///-1	R	UN2213	AA
Q2233	VSUN2213///-1	R	UN2213	AA
Q5504	VSUN2213///-1	R	UN2213	AA
Q5507	VS2SC2412KQ-1	R	2SC2412K	AA
Q6601	VSUN2213///-1	R	UN2213	AA
Q6603	VS2C3939SQR-1	R	2C3939SQ	AC
Q6604	VS2SC2001LK-1	R	2SC2001L	AA
Q6605	VSUN2113///-1	R	UN2113	AA
Q6606	VSUN2212///-1	R	UN2212	AA
Q6607	VSUN2113///-1	R	UN2113	AA
Q6608	VS2SC2412KQ-1	R	2SC2412K	AA
Q6610	VSUN2213///-1	R	UN2213	AA
Q7705	VS2SD1306-E-1	R	2SD1306	AC
Q7706	VS2SC2412KQ-1	R	2SC2412K	AA
Q7711	VS2SC2412KQ-1	R	2SC2412K	AA
Q7712	VS2SB1117KU1E	R	2SB1117K	AE
Q7720	VSUN2112///-1	R	UN2112	AA
Q7721	VS2SC2412KQ-1	R	2SC2412K	AA
Q7722	VS2SA1037KQ-1	R	2SA1037K	AA
Q7723	VS2SB1117KU1E	R	2SB1117K	AE
Q7724	VS2SC3851A/-1	R	2SC3851A	AD
Q7725	VS2SC2412KQ-1	R	2SC2412K	AA
Q7851	VSUN2213///-1	R	UN2213	AA

PWB-A: DUNTK9568WEV0/V1
MAIN UNIT (Continued)

Ref. No.	Part No.	★	Description	Code
Q8301	VS2SC2412KQ-1	R	2SC2412K	AA
Q8302	VS2SC2412KQ-1	R	2SC2412K	AA
Q8303	VS2SC2412KQ-1	R	2SC2412K	AA
Q8304	VS2SC2412KQ-1	R	2SC2412K	AA
Q8305	VS2SC2412KQ-1	R	2SC2412K	AA
DIODES				
D471	VHD1SS119//-1	R	Diode	AB
D472	VHD1SS119//-1	R	Diode	AB
D473	VHD1SS119//-1	R	Diode	AB
D474	VHD1SS119//-1	R	Diode	AB
D475	VHD1SS119//-1	R	Diode	AB
D476	VHD1SS119//-1	R	Diode	AB
D780	VHD1SS119//-1	R	Diode	AB
D781	VHD1SS119//-1	R	Diode	AB
D782	RH-EX0604GEZZ	R	Zener Diode, 4V	AB
D783	VHD1SS119//-1	R	Diode	AB
D784	VHD1SS119//-1	R	Diode	AB
D785	RH-EX0616GEZZ	R	Zener Diode, 5.8V	AA
D787	VHD1SS119//-1	R	Diode	AB
D801	VHD1SS119//-1	R	Diode	AB
D802	VHD1SS119//-1	R	Diode	AB
D1001	VHD1SS119//-1	R	Diode	AB
D1002	VHD1SS119//-1	R	Diode	AB
D1003	VHD1SS119//-1	R	Diode	AB
D1004	RH-EX1222CEZZ	R	Zener Diode, 6.2V	AE
D1005	RH-EX1222CEZZ	R	Zener Diode, 6.2V	AE
D1006	RH-EX0615GEZZ	R	Zener Diode, 5.6V	AA
D1007	VHD1SS119//-1	R	Diode	AB
D1009	RH-EX0615GEZZ	R	Zener Diode, 5.6V	AA
D1301	VHD1SS119//-1	R	Diode	AB
D2201	VHD1SS119//-1	R	Diode	AB
D2202	VHD1SS119//-1	R	Diode	AB
D2204	VHD1SS119//-1	R	Diode	AB
D7701	VHD1SS119//-1	R	Diode	AB
D7702	RH-PX0252GEZZ	R	GP1S563	AF
D7703	RH-PX0252GEZZ	R	GP1S563	AF
D7704	RH-PX0253GEZZ	R	GP1S94	AF
D7705	RH-PX0253GEZZ	R	GP1S94	AF
D7707	RH-PX0270GEZZ	R	LED, Cassette	AC
D7711	VHD1A3-F///-1	R	Diode	AA
D7720	VHD1A3-F///-1	R	Diode	AA
D7722	RH-EX0655GEZZ	R	Zener Diode, 19.1V	AB
D7737	VHD1SS119//-1	R	Diode	AB
D8301	RH-PX0008PEZZ	J	LED, Power/Wakeup	AE
D8302	RH-PX0013PEZZ	J	LED, Rec	AC
D8303	RH-PX0013PEZZ	J	LED, Prog. Timer	AC
D8304	RH-PX0013PEZZ	J	LED, Child Lock	AC
Q7703	RH-PX0233GEZZ	R	Start Sensor	AD
Q7704	RH-PX0233GEZZ	R	End Sensor	AD
PACKAGED CIRCUIT				
PR1701	RMPTP0062CEZZ	R	Positive Coefficient Thermistor	AH
X801	RCRSB0260CEZZ	R	Crystal, 16.2MHz	AK
X1001	RCRSB0138GEZZ	R	Crystal	AD
X5501	RCRSB0166GEZZ	R	Crystal, 4.43MHz	AG
X5502	RCRSB0204GEZZ	R	Crystal, 3.58MHz	AG
X7701	RCRSB0159GEZZ	R	Crystal, 16MHz	AF
FILTER AND COILS				
CF1001	RFiLA0084CEZZ	R	Ceramic Filter	AE
L301	VP-DF120K0000	R	Peaking 12µH	AB
L471	VP-CF101K0000	R	Peaking 100µH	AB
L801	VP-DF101K0000	R	Peaking 100µH	AB
L802	VP-DF101K0000	R	Peaking 100µH	AB
L1301	VP-DF3R3K0000	R	Peaking 3.3µH	AB
L1302	VP-CF3R3K0000	R	Peaking 3.3µH	AB
L1303	VP-CF3R3K0000	R	Peaking 3.3µH	AB
L1304	VP-DF3R3K0000	R	Peaking 3.3µH	AB
L1305	VP-DF3R3K0000	R	Peaking 3.3µH	AB
L1401	VP-DF3R3K0000	R	Peaking 3.3µH	AB

Ref. No.	Part No.	★	Description	Code
L2202	VP-DF4R7K0000	R	Peaking 4.7µH	AB
L2203	VP-XF330K0000	R	Peaking 33µH	AB
L2205	VP-XF101K0000	R	Peaking 100µH	AB
L2206	VP-ZK471K0000	R	Peaking 470µH	AB
L2207	VP-ZK561K0000	R	Peaking 560µH	AB
L2210	VP-XF221K0000	R	Peaking 220µH	AB
L2214	VP-ZK221K0000	R	Peaking 220µH	AB
L2223	RCiLP0312CEZZ	R	Coil	AE
L3301	VP-MK101K0000	R	Peaking 100µH	AB
L6601	VPADK153J0000	R	Peaking 15mH	AC
L6604	VP-DF221K0000	R	Peaking 220µH	AB
L6605	VPADK822J0000	R	Peaking 8.2mH	AC
L6607	VP-DF180K0000	R	Peaking 18µH (VT-G14)	AB
L6607	VP-DF8R2K0000	R	Peaking 8.2µH (VT-G21)	AB
L6610	VPADK153J0000	R	Peaking 15mH	AC
L7701	VP-XF1R0K0000	R	Peaking 1µH	AB
TRANSFORMER				
T6601	RTRNH0053GEZZ	R	Osc. Transformer	AE
CAPACITORS				
C303	VCEA0A1HW106M	R	10 50V Electrolytic	AB
C305	VCEA0A1HW106M	R	10 50V Electrolytic	AB
C306	VCEA0A1HW106M	R	10 50V Electrolytic	AB
C307	VCEA0A1CW107M	R	100 16V Electrolytic	AC
C308	VCKYCY1HF103Z	R	0.01 50V Ceramic	AA
C309	VCEA0A1HW106M	R	10 50V Electrolytic	AB
C371	VCEA0A1HW106M	R	10 50V Electrolytic	AB
C372	VCEA0A1HW106M	R	10 50V Electrolytic	AB
C471	VCEA0A1CW476M	R	47 16V Electrolytic	AB
C472	VCEA0A1CW226M	R	22 16V Electrolytic	AB
C474	VCKYCY1CF104Z	R	0.1 16V Ceramic	AA
C475	VCEA0A1HW105M	R	1 50V Electrolytic	AB
C476	VCEA0A1AW107M	R	100 10V Electrolytic	AB
C477	VCKYCY1HF103Z	R	0.01 50V Ceramic	AA
C478	VCKYPA1HF103Z	R	0.01 50V Ceramic	AA
C479	VCEA0A1HW475M	R	4.7 50V Electrolytic	AB
C480	VCKYCY1CF104Z	R	0.1 16V Ceramic	AA
C481	VCEA0A1CW106M	R	10 16V Electrolytic (VT-G14)	AB
C481	VCEA0A1HW106M	R	10 50V Electrolytic (VT-G21)	AB
C482	VCCCCY1HH560J	R	56p 50V Ceramic	AA
C483	VCEA0A1HW105M	R	1 50V Electrolytic	AB
C484	VCEA0A1CW107M	R	100 16V Electrolytic	AC
C571	VCEACA1HC225M	R	2.2 50V Electrolytic	AC
C572	VCEA0A1HW105M	R	1 50V Electrolytic	AB
C573	VCEACA1HC105M	R	1 50V Electrolytic	AC
C574	VCEACA1HC105M	R	1 50V Electrolytic	AC
C575	VCKYCY1HB102K	R	1000p 50V Ceramic	AA
C576	VCKYCY1HB122K	R	1200p 50V Ceramic	AA
C671	VCEA0A1HW475M	R	4.7 50V Electrolytic	AB
C672	VCKYCY1HF103Z	R	0.01 50V Ceramic	AA
C673	VCKYCY1HF103Z	R	0.01 50V Ceramic	AA
C674	VCFYFA1HA224J	R	0.22 50V Mylar	AB
C675	VCQYTA1HM103J	R	0.01 50V Mylar	AA
C676	VCEA0A1HW105M	R	1 50V Electrolytic	AB
C780	VCKYCY1HF103Z	R	0.01 50V Ceramic	AA
C781	VCKYCY1HF103Z	R	0.01 50V Ceramic	AA
C782	VCEA0A1CW107M	R	100 16V Electrolytic	AC
C783	VCKYCY1HF103Z	R	0.01 50V Ceramic	AA
C784	VCKYCY1HF103Z	R	0.01 50V Ceramic	AA
C785	VCKYCY1HF103Z	R	0.01 50V Ceramic	AA
C786	VCKYCY1HF103Z	R	0.01 50V Ceramic	AA
C787	VCEA0A1CW107M	R	100 16V Electrolytic	AC
C788	VCKYCY1HF103Z	R	0.01 50V Ceramic	AA
C789	VCKYCY1HF103Z	R	0.01 50V Ceramic	AA
C790	VCEA0A1CW107M	R	100 16V Electrolytic	AC
C791	VCKYCY1HF103Z	R	0.01 50V Ceramic	AA
C792	VCKYCY1HF103Z	R	0.01 50V Ceramic	AA
C793	VCEA0A1CW476M	R	47 16V Electrolytic	AB
C794	VCEA0A1CW476M	R	47 16V Electrolytic	AB
C801	VCEA0A1CW107M	R	100 16V Electrolytic	AC
C802	VCKYCY1HF103Z	R	0.01 50V Ceramic	AA
C803	VCEA0A1CW107M	R	100 16V Electrolytic	AC

PWB-A: DUNTK9568WEV0/V1
MAIN UNIT (Continued)

Ref. No.	Part No.	★			Description	Code
C804	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C808	VCEA0A1HW475M	R	4.7	50V	Electrolytic	AB
C809	VCEA0A1HW105M	R	1	50V	Electrolytic	AB
C810	VCQYTA1HM103J	R	0.01	50V	Mylar	AA
C811	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C812	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C813	VCEA0A1AW107M	R	100	10V	Electrolytic	AB
C814	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C815	VCCCCY1HH120J	R	12p	50V	Ceramic	AA
C901	VCQYTA1HM223J	R	0.022	50V	Mylar	AA
C1001	VCEA2A0JW108M	R	1000	6.3V	Electrolytic	AB
C1002	RC-EZ0425GEZZ	R	0.047	5.5V	Electrolytic	AE
C1003	RC-KZ0019GEZZ	R	0.1	25V	Ceramic	AA
C1004	VCCCCY1HH121J	R	120p	50V	Ceramic	AA
C1005	VCCCCY1HH121J	R	120p	50V	Ceramic	AA
C1006	VCCCCY1HH121J	R	120p	50V	Ceramic	AA
C1007	VCCCCY1HH121J	R	120p	50V	Ceramic	AA
C1008	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C1009	VCEAKA1CW106M	R	10	16V	Electrolytic	AB
C1010	VCEAKA1HW105M	R	1	50V	Electrolytic	AB
C1011	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C1012	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C1013	VCCCCY1HH220J	R	22p	50V	Ceramic	AA
C1014	VCCCCY1HH220J	R	22p	50V	Ceramic	AA
C1015	VCEAKA1CW106M	R	10	16V	Electrolytic	AB
C1016	VCEA9A1CW106M	R	10	16V	Electrolytic	AB
C1017	VCEA9A1CW106M	R	10	16V	Electrolytic	AB
C1018	VCCCCY1HH331J	R	330p	50V	Ceramic	AA
C1019	VCQYTA1HM223J	R	0.022 (VT-G14)	50V	Mylar	AA
C1019	VCQYTA1HM333J	R	0.033 (VT-G21)	50V	Mylar	AA
C1020	VCCCCY1HH560J	R	56p	50V	Ceramic	AA
C1021	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C1022	VCEA9M1CW107M	R	100	16V	Electrolytic	AB
C1023	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C1024	VCCCCY1HH181J	R	180p	50V	Ceramic	AA
C1025	VCEA0A1HW475M	R	4.7	50V	Electrolytic	AB
C1026	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C1028	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C1301	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C1302	VCEA0A1HW106M	R	10	50V	Electrolytic	AB
C1303	VCQYTA1HM103J	R	0.01	50V	Mylar	AA
C1304	VCEA0A1HW105M	R	1	50V	Electrolytic	AB
C1305	VCEA0A1CW477M	R	470	16V	Electrolytic	AC
C1306	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C1307	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C1308	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C1309	VCEA0A1AW107M	R	100	10V	Electrolytic	AB
C1310	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C1311	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C1312	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C1313	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C1314	VCEA0A1AW107M	R	100	10V	Electrolytic	AB
C1401	VCEA0A1CW476M	R	47	16V	Electrolytic	AB
C1402	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C1703	RC-KZ0160GEZZ	R	0.01	AC250V	Ceramic	AC
C2201	VCKYCY1EB822K	R	8200p	25V	Ceramic	AA
C2202	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C2203	VCEA9A0JW226M	R	22	6.3V	Electrolytic	AB
C2204	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C2205	VCEA9A1CW106M	R	10	16V	Electrolytic	AB
C2206	VCEAKA1HW225M	R	2.2	50V	Electrolytic	AB
C2207	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C2208	VCEA9A0JW476M	R	47	6.3V	Electrolytic	AB
C2209	VCEAKA0JW476M	R	47	6.3V	Electrolytic	AB
C2210	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C2211	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C2212	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C2213	VCEA9A1HW475M	R	4.7	50V	Electrolytic	AB
C2214	VCEA9A1CW106M	R	10	16V	Electrolytic	AB
C2215	VCCCCY1HH201J	R	200p	50V	Ceramic	AD
C2216	VCKYCY1CF474Z	R	0.47	16V	Ceramic	AB
C2217	VCEA9A1HW474M	R	0.47	50V	Electrolytic	AB
C2218	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C2219	VCCCCY1HH330J	R	33p	50V	Ceramic	AA
C2220	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C2221	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C2222	VCEA9A1CW106M	R	10	16V	Electrolytic	AB
C2223	VCEA9A1HW105M	R	1	50V	Electrolytic	AB
C2224	VCEA9A1HW105M	R	1	50V	Electrolytic	AB
C2225	VCCCCY1HH680J	R	68p	50V	Ceramic	AA
C2227	VCKYCY1AF105Z	R	1	10V	Ceramic	AC
C2228	VCCCCY1HH560J	R	56p	50V	Ceramic	AA
C2229	VCEA9A0JW476M	R	47	6.3V	Electrolytic	AB
C2230	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C2231	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C2233	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C2237	VCCCCY1HH201J	R	200p	50V	Ceramic	AD
C2238	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C2239	VCKYCY1CF474Z	R	0.47	16V	Ceramic	AB
C2244	VCKYCY1HF223Z	R	0.022	50V	Ceramic	AB
C2245	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C2247	VCEAKM1CW476M	R	47	16V	Electrolytic	AB
C2254	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C2258	VCKYCY1EB103K	R	0.01	25V	Ceramic	AA
C2259	VCKYCY1EB103K	R	0.01	25V	Ceramic	AA
C2260	VCKYCY1EB103K	R	0.01	25V	Ceramic	AA
C2267	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C2269	VCKYCY1EB103K	R	0.01	25V	Ceramic	AA
C2270	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C2273	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C2274	VCCCCY1HH560J	R	56p	50V	Ceramic	AA
C2275	VCCCCY1HH820J	R	82p	50V	Ceramic	AA
C2276	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C2277	VCEA0A0JW477M	R	470	6.3V	Electrolytic	AC
C3301	VCKYCY1HF223Z	R	0.022	50V	Ceramic	AB
C3302	VCCCCY1HH220J	R	22p	50V	Ceramic	AA
C3303	VCKYCY1HF223Z	R	0.022	50V	Ceramic	AB
C3304	VCCCCY1HH220J	R	22p	50V	Ceramic	AA
C3311	VCKYCY1HB471K	R	470p	50V	Ceramic	AA
C3312	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C3313	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C3314	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C3316	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C3317	VCEAKM1CW476M	R	47	16V	Electrolytic	AB
C5501	VCKYCY1HB392K	R	3900p	50V	Ceramic	AA
C5502	VCEA9A1HW225M	R	2.2	50V	Electrolytic	AB
C5503	VCEA9A1HW225M	R	2.2	50V	Electrolytic	AB
C5504	VCCCCY1HH221J	R	220p	50V	Ceramic	AA
C5505	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C5506	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C5507	VCKYCY1CF474Z	R	0.47	16V	Ceramic	AB
C5508	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C5509	VCEA9A0JW476M	R	47	6.3V	Electrolytic	AB
C5510	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C5511	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C5512	VCKYCY1CF474Z	R	0.47	16V	Ceramic	AB
C5513	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C5514	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C5519	VCKYCY1AF105Z	R	1	10V	Ceramic	AC
C5521	VCEA9A1HW475M	R	4.7	50V	Electrolytic	AB
C6601	VCKYCY1CB104K	R	0.1	16V	Ceramic	AB
C6602	VCEA9A1CW226M	R	22	16V	Electrolytic	AB
C6604	VCKYCY1EB123K	R	0.012	25V	Ceramic	AA
C6605	VCKYCY1HB182K	R	1800p	50V	Ceramic	AA
C6606	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C6608	VCKYCY1EB822K	R	8200p	25V	Ceramic	AA
C6610	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C6611	VCKYCY1HF223Z	R	0.022	50V	Ceramic	AB
C6612	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C6613	VCEA9A0JW476M	R	47	6.3V	Electrolytic	AB
C6614	VCEAKA1CW226M	R	22	16V	Electrolytic	AB
C6615	VCEAKA0JW476M	R	47	6.3V	Electrolytic	AB
C6616	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C6617	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA

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MAIN UNIT (Continued)

Ref. No.	Part No.	★			Description	Code
C6618	VCEA9A1CW106M	R	10	16V	Electrolytic	AB
C6619	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C6630	VCQPYA2AA562J	R	5600p	100V	Polypro Film	AC
C6631	VCEA9A1CW476M	R	47	16V	Electrolytic	AB
C6632	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C6633	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C6634	VCEAKM1CW106M	R	10	16V	Electrolytic	AB
C6635	VCKYCY1HB681K	R	680p	50V	Ceramic	AA
C6636	VCEA9A1CW476M	R	47	16V	Electrolytic	AB
C6638	VCEA9A1HW105M	R	1	50V	Electrolytic	AB
C6639	VCEA9A1HW105M	R	1	50V	Electrolytic	AB
C6643	VCEA9A1HW105M	R	1	50V	Electrolytic	AB
C6645	VCKYCY1EB183K	R	0.018	25V	Ceramic	AA
C7701	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C7702	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C7704	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C7705	VCCCCY1HH220J	R	22p	50V	Ceramic	AA
C7706	VCCCCY1HH220J	R	22p	50V	Ceramic	AA
C7707	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C7708	VCKYCY1HB272K	R	2700p	50V	Ceramic	AA
C7709	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C7710	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C7713	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C7714	VCKYCY1HB332K	R	3300p	50V	Ceramic	AA
C7715	VCEAKA1CW226M	R	22	16V	Electrolytic	AB
C7716	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C7717	VCEA9A1CW106M	R	10	16V	Electrolytic	AB
C7719	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C7721	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C7722	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C7723	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C7725	VCKYCY1HB222K	R	2200p	50V	Ceramic	AA
C7728	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C7729	VCEA9A1CW106M	R	10	16V	Electrolytic	AB
C7730	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C7731	VCEA9A1CW226M	R	22	16V	Electrolytic	AB
C7732	VCKYCY1HB682K	R	6800p	50V	Ceramic	AA
C7733	VCKYCY1HB221K	R	220p	50V	Ceramic	AA
C7734	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C7735	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C7736	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C7737	VCEAKA0JW107M	R	100	6.3V	Electrolytic	AB
C7738	VCEA9A1CW476M	R	47	16V	Electrolytic	AB
C7739	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C7740	VCE9EA1HW105M	R	1	50V	Elect. (N.P)	AC
C7742	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C7743	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C7749	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C7750	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C7751	VCEA9A1CW106M	R	10	16V	Electrolytic	AB
C7755	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C7756	VCKYCY1CF104Z	R	0.1	16V	Ceramic	AA
C7758	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C7759	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C7760	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C7761	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C7765	VCEA0A1CW337M	R	330	16V	Electrolytic	AC
C7851	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA

RESISTORS

RJ2	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ3	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ5	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ6	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ7	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ8	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ11	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ12	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ13	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ14	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ15	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ16	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ18	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ21	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ23	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ25	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ26	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ27	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ28	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ30	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ31	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ32	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ33	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ34	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ35	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
R302	VRD-RA2BE101J	R	100	1/8W	Carbon	AB
R306	VRS-CY1JF101J	R	100	1/16W	Metal Oxide	AA
R307	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R308	VRS-CY1JF473J	R	47k	1/16W	Metal Oxide	AA
R309	VRS-CY1JF473J	R	47k	1/16W	Metal Oxide	AA
R310	VRS-CY1JF101J	R	100	1/16W	Metal Oxide	AA
R311	VRS-CY1JF392J	R	3.9k	1/16W	Metal Oxide	AA
R312	VRS-CY1JF122J	R	1.2k	1/16W	Metal Oxide	AA
R313	VRS-CY1JF273J	R	27k	1/16W	Metal Oxide	AA
R314	VRS-CY1JF682J	R	6.8k	1/16W	Metal Oxide	AA
R315	VRS-CY1JF823J	R	82k	1/16W	Metal Oxide	AA
R370	VRS-CY1JF101J	R	100	1/16W	Metal Oxide	AA
R371	VRS-CY1JF272J	R	2.7k	1/16W	Metal Oxide	AA
R372	VRS-CY1JF101J	R	100	1/16W	Metal Oxide	AA
R373	VRS-CY1JF183J	R	18k	1/16W	Metal Oxide	AA
R471	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R472	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R474	VRS-CY1JF824J	R	820k	1/16W	Metal Oxide	AA
R475	VRD-RA2BE101J	R	100	1/8W	Carbon	AB
R476	VRS-CY1JF473J	R	47k	1/16W	Metal Oxide	AA
R477	VRD-RA2BE101J	R	100	1/8W	Carbon	AB
R478	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R479	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R480	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R481	VRS-CY1JF222J	R	2.2k	1/16W	Metal Oxide	AA
R482	VRD-RA2BE222J	R	2.2k	1/8W	Carbon	AA
R483	VRD-RA2BE103J	R	10k	1/8W	Carbon	AA
R484	VRS-CY1JF473J	R	47k	1/16W	Metal Oxide	AA
R485	VRS-CY1JF473J	R	47k	1/16W	Metal Oxide	AA
R486	VRS-CY1JF223J	R	22k	1/16W	Metal Oxide	AA
R487	VRD-RA2BE223J	R	22k	1/8W	Carbon	AA
R488	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R489	VRS-CY1JF222J	R	2.2k	1/16W	Metal Oxide	AA
R492	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R571	VRS-CY1JF182J	R	1.8k (VT-G14)	1/16W	Metal Oxide	AA
R571	VRS-CY1JF122J	R	1.2k (VT-G21)	1/16W	Metal Oxide	AA
R572	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R671	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R672	VRS-CY1JF681J	R	680	1/16W	Metal Oxide	AA
R673	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R674	VRS-CY1JF224J	R	220k	1/16W	Metal Oxide	AA
R675	VRS-CY1JF822J	R	8.2k	1/16W	Metal Oxide	AA
R781	VRD-RM2HD391J	R	390	1/2W	Carbon	AA
R782	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R783	VRS-CY1JF393J	R	39k	1/16W	Metal Oxide	AA
R784	VRS-CY1JF472J	R	4.7k	1/16W	Metal Oxide	AA
R785	VRS-CY1JF472J	R	4.7k	1/16W	Metal Oxide	AA
R787	VRD-RM2HD271J	R	270	1/2W	Carbon	AA
R801	VRS-CY1JF101J	R	100	1/16W	Metal Oxide	AA
R802	VRS-CY1JF101J	R	100	1/16W	Metal Oxide	AA
R805	VRS-CY1JF472J	R	4.7k	1/16W	Metal Oxide	AA
R806	VRS-CY1JF472J	R	4.7k	1/16W	Metal Oxide	AA
R807	VRS-CY1JF472J	R	4.7k	1/16W	Metal Oxide	AA
R808	VRS-CY1JF101J	R	100	1/16W	Metal Oxide	AA
R809	VRS-CY1JF101J	R	100	1/16W	Metal Oxide	AA
R810	VRS-CY1JF101J	R	100	1/16W	Metal Oxide	AA
R811	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R812	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R813	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA

PWB-A: DUNTK9568WEV0/V1
MAIN UNIT (Continued)

Ref. No.	Part No.	★	Description	Code
R814	VRD-RA2BE332J	R	3.3k 1/8W Carbon	AA
R815	VRS-CY1JF222J	R	2.2k 1/16W Metal Oxide	AA
R816	VRD-RA2BE332J	R	3.3k 1/8W Carbon	AA
R817	VRS-CY1JF222J	R	2.2k 1/16W Metal Oxide	AA
R818	VRD-RA2BE332J	R	3.3k 1/8W Carbon	AA
R819	VRS-CY1JF222J	R	2.2k 1/16W Metal Oxide	AA
R820	VRD-RA2BE332J	R	3.3k 1/8W Carbon	AA
R821	VRS-CY1JF222J	R	2.2k 1/16W Metal Oxide	AA
R823	VRS-CY1JF472J	R	4.7k 1/16W Metal Oxide	AA
R830	VRS-CY1JF273J	R	27k 1/16W Metal Oxide	AA
R1001	VRD-RM2HD101J	R	100 1/2W Carbon	AA
R1002	VRD-RA2BE272J	R	2.7k 1/8W Carbon	AA
R1003	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R1004	VRD-RA2BE103J	R	10k 1/8W Carbon	AA
R1005	VRD-RA2BE103J	R	10k 1/8W Carbon	AA
R1006	VRD-RA2BE103J	R	10k 1/8W Carbon	AA
R1007	VRS-CY1JF333J	R	33k 1/16W Metal Oxide	AA
R1008	VRS-CY1JF333J	R	33k 1/16W Metal Oxide	AA
R1009	VRS-CY1JF182J	R	1.8k 1/16W Metal Oxide	AA
R1010	VRS-CY1JF182J	R	1.8k 1/16W Metal Oxide	AA
R1011	VRS-CY1JF182J	R	1.8k 1/16W Metal Oxide	AA
R1012	VRS-CY1JF182J	R	1.8k 1/16W Metal Oxide	AA
R1013	VRD-RA2BE221J	R	220 1/8W Carbon	AA
R1014	VRS-CY1JF221J	R	220 1/16W Metal Oxide	AA
R1016	VRS-CY1JF221J	R	220 1/16W Metal Oxide	AA
R1018	VRS-CY1JF222J	R	2.2k 1/16W Metal Oxide	AA
R1019	VRS-CY1JF221J	R	220 1/16W Metal Oxide	AA
R1020	VRS-CY1JF473J	R	47k 1/16W Metal Oxide	AA
R1021	VRS-CY1JF221J	R	220 1/16W Metal Oxide	AA
R1022	VRS-CY1JF221J	R	220 1/16W Metal Oxide	AA
R1023	VRS-CY1JF221J	R	220 1/16W Metal Oxide	AA
R1024	VRS-CY1JF102J	R	1k 1/16W Metal Oxide	AA
R1026	VRS-CY1JF221J	R	220 1/16W Metal Oxide	AA
R1027	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R1030	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R1031	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R1033	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R1035	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R1036	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R1037	VRS-CY1JF221J	R	220 1/16W Metal Oxide	AA
R1038	VRS-CY1JF102J	R	1k 1/16W Metal Oxide	AA
R1039	VRS-CY1JF472J	R	4.7k 1/16W Metal Oxide	AA
R1040	VRD-RA2BE822J	R	8.2k 1/8W Carbon	AA
R1041	VRS-CY1JF106J	R	10M 1/16W Metal Oxide	AA
R1042	VRS-CY1JF564J	R	560k 1/16W Metal Oxide	AA
R1043	VRS-CY1JF221J	R	220 1/16W Metal Oxide	AA
R1044	VRS-CY1JF221J	R	220 1/16W Metal Oxide	AA
R1045	VRS-CY1JF392J	R	3.9k 1/16W Metal Oxide	AA
R1046	VRS-CY1JF392J	R	3.9k 1/16W Metal Oxide	AA
R1047	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R1048	VRS-CY1JF221J	R	220 1/16W Metal Oxide	AA
R1049	VRD-RA2BE221J	R	220 1/8W Carbon	AA
R1050	VRD-RA2BE221J	R	220 1/8W Carbon	AA
R1051	VRS-CY1JF392J	R	3.9k 1/16W Metal Oxide	AA
R1052	VRS-CY1JF392J	R	3.9k 1/16W Metal Oxide	AA
R1053	VRS-CY1JF221J	R	220 1/16W Metal Oxide	AA
R1054	VRS-CY1JF473J	R	47k 1/16W Metal Oxide	AA
R1055	VRD-RA2BE223J	R	22k 1/8W Carbon	AA
R1057	VRD-RA2BE221J	R	220 1/8W Carbon	AA
R1058	VRD-RA2BE221J	R	220 1/8W Carbon	AA
R1059	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R1060	VRS-CY1JF153J	R	15k 1/16W Metal Oxide	AA
R1061	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R1062	VRS-CY1JF153J	R	15k 1/16W Metal Oxide	AA
R1063	VRS-CY1JF473J	R	47k 1/16W Metal Oxide	AA
R1064	VRS-CY1JF333J	R	33k 1/16W Metal Oxide	AA
R1065	VRS-CY1JF183J	R	18k 1/16W Metal Oxide	AA
R1066	VRS-CY1JF182J	R	1.8k 1/16W Metal Oxide	AA
R1067	VRS-CY1JF562J	R	5.6k 1/16W Metal Oxide	AA
R1068	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R1069	VRS-CY1JF333J	R	33k 1/16W Metal Oxide	AA
R1070	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R1071	VRS-CY1JF562J	R	5.6k 1/16W Metal Oxide	AA
R1072	VRS-CY1JF221J	R	220 1/16W Metal Oxide	AA
R1073	VRS-CY1JF221J	R	220 1/16W Metal Oxide	AA
R1074	VRD-RM2HD101J	R	100 1/2W Carbon	AA
R1086	VRS-CY1JF221J	R	220 1/16W Metal Oxide	AA
R1090	VRS-CY1JF101J	R	100 1/16W Metal Oxide	AA
R1091	VRD-RA2BE101J	R	100 1/8W Carbon	AB
R1092	VRS-CY1JF221J	R	220 1/16W Metal Oxide	AA
R1093	VRD-RA2BE103J	R	10k 1/8W Carbon	AA
R1094	VRD-RA2BE562J	R	5.6k 1/8W Carbon (VT-G14)	AA
R1094	VRD-RA2BE183J	R	18k 1/8W Carbon (VT-G21)	AA
R1095	VRD-RA2BE224J	R	220k 1/8W Carbon	AA
R1301	VRS-CY1JF472J	R	4.7k 1/16W Metal Oxide	AA
R1302	VRS-CY1JF153J	R	15k 1/16W Metal Oxide	AA
R1303	VRS-CY1JF101J	R	100 1/16W Metal Oxide	AA
R1304	VRS-CY1JF333J	R	33k 1/16W Metal Oxide	AA
R1305	VRS-CY1JF153J	R	15k 1/16W Metal Oxide	AA
R1306	VRS-CY1JF273J	R	27k 1/16W Metal Oxide	AA
R1307	VRD-RM2HD1R2J	R	1.2 1/2W Carbon	AA
R1308	VRD-RM2HD680J	R	68 1/2W Carbon (VT-G14)	AA
R1308	VRD-RM2HD151J	R	150 1/2W Carbon (VT-G21)	AA
R1309	VRD-RM2HD680J	R	68 1/2W Carbon	AA
R1310	VRD-RM2HD1R2J	R	1.2 1/2W Carbon	AA
R1311	VRD-RM2HD1R2J	R	1.2 1/2W Carbon	AA
R1401	VRD-RA2EE750J	R	75 1/4W Carbon	AA
R1402	VRS-CY1JF101J	R	100 1/16W Metal Oxide	AA
R2201	VRD-RA2BE103J	R	10k 1/8W Carbon	AA
R2202	VRD-RA2BE103J	R	10k 1/8W Carbon	AA
R2203	VRS-CY1JF474J	R	470k 1/16W Metal Oxide	AA
R2204	VRS-CY1JF125J	R	1.2M 1/16W Metal Oxide	AA
R2205	VRS-CY1JF121J	R	120 1/16W Metal Oxide	AA
R2206	VRS-CY1JF334J	R	330k 1/16W Metal Oxide	AA
R2207	VRS-CY1JF334J	R	330k 1/16W Metal Oxide	AA
R2208	VRS-CY1JF272J	R	2.7k 1/16W Metal Oxide	AA
R2210	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R2211	VRS-CY1JF682J	R	6.8k 1/16W Metal Oxide	AA
R2212	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R2213	VRS-CY1JF471J	R	470 1/16W Metal Oxide	AA
R2215	VRD-RA2BE472J	R	4.7k 1/8W Carbon	AA
R2216	VRS-CY1JF123J	R	12k 1/16W Metal Oxide	AA
R2217	VRD-RA2BE103J	R	10k 1/8W Carbon	AA
R2222	VRS-CY1JF151J	R	150 1/16W Metal Oxide	AA
R2225	VRS-CY1JF561J	R	560 1/16W Metal Oxide	AA
R2226	VRS-CY1JF272J	R	2.7k 1/16W Metal Oxide	AA
R2227	VRS-CY1JF681J	R	680 1/16W Metal Oxide	AA
R2228	VRS-CY1JF471J	R	470 1/16W Metal Oxide	AA
R2229	VRS-CY1JF102J	R	1k 1/16W Metal Oxide	AA
R2230	VRD-RA2BE272J	R	2.7k 1/8W Carbon	AA
R2231	VRS-CY1JF104J	R	100k 1/16W Metal Oxide	AA
R2232	VRS-CY1JF101J	R	100 1/16W Metal Oxide	AA
R2233	VRS-CY1JF822J	R	8.2k 1/16W Metal Oxide	AA
R2234	VRS-CY1JF681J	R	680 1/16W Metal Oxide	AA
R2235	VRS-CY1JF153J	R	15k 1/16W Metal Oxide	AA
R2236	VRS-CY1JF331J	R	330 1/16W Metal Oxide	AA
R2237	VRS-CY1JF822J	R	8.2k 1/16W Metal Oxide	AA
R2238	VRD-RA2BE272J	R	2.7k 1/8W Carbon	AA
R2245	VRS-CY1JF681J	R	680 1/16W Metal Oxide	AA
R2253	VRS-CY1JF122J	R	1.2k 1/16W Metal Oxide	AA
R2254	VRS-CY1JF333J	R	33k 1/16W Metal Oxide	AA
R2255	VRS-CY1JF223J	R	22k 1/16W Metal Oxide	AA
R2257	VRS-CY1JF101J	R	100 1/16W Metal Oxide	AA
R2260	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R2261	VRD-RA2BE103J	R	10k 1/8W Carbon	AA
R2262	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R2263	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R2267	VRS-CY1JF332J	R	3.3k 1/16W Metal Oxide	AA
R2274	VRD-RA2BE224J	R	220k 1/8W Carbon	AA
R2277	VRD-RA2BE103J	R	10k 1/8W Carbon	AA
R2278	VRS-CY1JF102J	R	1k 1/16W Metal Oxide	AA
R2284	VRS-CY1JF100J	R	10 1/16W Metal Oxide	AA

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MAIN UNIT (Continued)

Ref. No.	Part No.	★				Code
R2285	VRS-CY1JF474J	R	470k	1/16W	Metal Oxide (VT-G21)	AA
R2286	VRS-CY1JF475J	R	4.7M	1/16W	Metal Oxide (VT-G21)	AA
R3308	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R3312	VRS-CY1JF682J	R	6.8k	1/16W	Metal Oxide	AA
R3314	VRS-CY1JF473J	R	47k	1/16W	Metal Oxide	AA
R5501	VRD-RA2BE122J	R	1.2k	1/8W	Carbon	AA
R5502	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R5503	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R5504	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R5507	VRD-RA2BE223J	R	22k	1/8W	Carbon	AA
R5508	VRS-CY1JF104J	R	100k	1/16W	Metal Oxide	AA
R5511	VRS-CY1JF562J	R	5.6k	1/16W	Metal Oxide	AA
R5512	VRS-CY1JF224J	R	220k	1/16W	Metal Oxide	AA
R6601	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R6602	VRS-CY1JF151J	R	150	1/16W	Metal Oxide	AA
R6603	VRS-CY1JF472J	R	4.7k	1/16W	Metal Oxide	AA
R6604	VRS-CY1JF334J	R	330k	1/16W	Metal Oxide	AA
R6605	VRS-CY1JF333J	R	33k	1/16W	Metal Oxide	AA
R6606	VRS-CY1JF471J	R	470	1/16W	Metal Oxide	AA
R6607	VRS-CY1JF223J	R	22k	1/16W	Metal Oxide	AA
R6608	VRS-CY1JF821J	R	820	1/16W	Metal Oxide	AA
R6610	VRS-CY1JF821J	R	820	1/16W	Metal Oxide	AA
R6611	VRS-CY1JF681J	R	680	1/16W	Metal Oxide	AA
R6612	VRS-CY1JF225J	R	2.2M	1/16W	Metal Oxide	AA
R6613	VRS-CY1JF561J	R	560	1/16W	Metal Oxide	AA
R6614	VRS-CY1JF123J	R	12k	1/16W	Metal Oxide	AA
R6615	VRS-CY1JF223J	R	22k	1/16W	Metal Oxide	AA
R6616	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R6630	VRS-CY1JF563J	R	56k	1/16W	Metal Oxide	AA
R6632	VRD-RA2EE4R7J	R	4.7	1/4W	Carbon	AA
R6633	VRS-CY1JF682J	R	6.8k	1/16W	Metal Oxide	AA
R6634	VRD-RA2BE470J	R	47	1/8W	Carbon	AA
R6636	VRD-RA2BE561J	R	560	1/8W	Carbon	AA
R6637	VRD-RA2BE153J	R	15k	1/8W	Carbon	AA
R6638	VRS-CY1JF562J	R	5.6k	1/16W	Metal Oxide	AA
R6639	VRD-RA2BE473J	R	47k	1/8W	Carbon	AA
R7701	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7702	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7703	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7707	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7708	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7711	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7712	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7713	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7715	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7718	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R7719	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7720	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7724	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7730	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7731	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7732	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R7733	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R7734	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R7736	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R7739	VRS-CY1JF562J	R	5.6k	1/16W	Metal Oxide	AA
R7740	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R7742	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R7743	VRD-RA2BE103J	R	10k	1/8W	Carbon	AA
R7744	VRD-RA2BE103J	R	10k	1/8W	Carbon	AA
R7745	VRD-RA2BE103J	R	10k	1/8W	Carbon	AA
R7746	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7747	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7748	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7749	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7750	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7751	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7752	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R7753	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7754	VRS-CY1JF393J	R	39k	1/16W	Metal Oxide	AA
R7755	VRS-CY1JF183J	R	18k	1/16W	Metal Oxide	AA
R7756	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7757	VRS-CY1JF223J	R	22k	1/16W	Metal Oxide	AA
R7758	VRS-CY1JF153J	R	15k	1/16W	Metal Oxide	AA
R7759	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7760	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7761	VRS-CY1JF274J	R	270k	1/16W	Metal Oxide	AA
R7762	VRS-CY1JF224J	R	220k	1/16W	Metal Oxide	AA
R7763	VRS-CY1JF473J	R	47k	1/16W	Metal Oxide	AA
R7764	VRD-RA2BE472J	R	4.7k	1/8W	Carbon	AA
R7765	VRS-CY1JF104J	R	100k	1/16W	Metal Oxide	AA
R7766	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7767	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7769	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7770	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7771	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7772	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7773	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7774	VRS-CY1JF681J	R	680	1/16W	Metal Oxide	AA
R7775	VRS-CY1JF332J	R	3.3k	1/16W	Metal Oxide	AA
R7776	VRD-RA2BE472J	R	4.7k	1/8W	Carbon	AA
R7777	VRD-RA2BE391J	R	390	1/8W	Carbon	AA
R7778	VRS-CY1JF473J	R	47k	1/16W	Metal Oxide	AA
R7779	VRD-RA2BE391J	R	390	1/8W	Carbon	AA
R7780	VRS-CY1JF473J	R	47k	1/16W	Metal Oxide	AA
R7781	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R7782	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7788	VRS-CY1JF103F	R	10k	1/16W	Metal Oxide	AA
R7790	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7791	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7792	VRD-RA2BE123J	R	12k	1/8W	Carbon	AA
R7793	VRS-CY1JF103F	R	10k	1/16W	Metal Oxide	AA
R7794	VRS-CY1JF123J	R	12k	1/16W	Metal Oxide	AA
R7795	VRD-RA2EE151J	R	150	1/4W	Carbon	AA
R7796	VRS-CY1JF332J	R	3.3k	1/16W	Metal Oxide	AA
R7797	VRS-CY1JF182J	R	1.8k	1/16W	Metal Oxide	AA
R7798	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7799	VRS-CY1JF104J	R	100k	1/16W	Metal Oxide	AA
R7800	VRD-RA2BE271J	R	270	1/8W	Carbon	AA
R7801	VRS-CY1JF104J	R	100k	1/16W	Metal Oxide	AA
R7802	VRD-RA2BE271J	R	270	1/8W	Carbon	AA
R7803	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R7804	VRD-RA2BE222J	R	2.2k	1/8W	Carbon	AA
R7805	VRD-RA2BE103J	R	10k	1/8W	Carbon	AA
R7806	VRD-RA2BE103J	R	10k	1/8W	Carbon	AA
⚠ R7807	VRG-SC2EB1R2J	R	1.2	1/4W	Fuse Resistor	AB
R7808	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7809	VRD-RA2BE822J	R	8.2k	1/8W	Carbon	AA
R7810	VRD-RA2BE822J	R	8.2k	1/8W	Carbon	AA
R7811	VRD-RA2BE822J	R	8.2k	1/8W	Carbon	AA
⚠ R7813	VRG-SC2EB1R2J	R	1.2	1/4W	Fuse Resistor	AB
R7818	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R7820	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7821	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7823	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7824	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R7826	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R7828	VRS-CY1JF684J	R	680k	1/16W	Metal Oxide	AA
R7830	VRD-RM2HD561J	R	560	1/2W	Carbon	AA
R7831	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R7840	VRD-RM2HD561J	R	560	1/2W	Carbon	AA
R7841	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R7842	VRD-RA2BE562J	R	5.6k	1/8W	Carbon	AA
R7843	VRD-RA2BE562J	R	5.6k	1/8W	Carbon	AA
R7844	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R7845	VRD-RM2HD561J	R	560	1/2W	Carbon	AA
R7846	VRD-RM2HD561J	R	560	1/2W	Carbon	AA
R7847	VRD-RA2BE104J	R	100k	1/8W	Carbon	AA
R7848	VRS-CY1JF562J	R	5.6k	1/16W	Metal Oxide	AA
R7849	VRS-CY1JF562J	R	5.6k	1/16W	Metal Oxide	AA
R7851	VRD-RA2BE822J	R	8.2k	1/8W	Carbon	AA
R7852	VRS-CY1JF392J	R	3.9k	1/16W	Metal Oxide	AA
R7859	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R7860	VRD-RA2BE103J	R	10k	1/8W	Carbon	AA

Ref. No.	Part No.	★	Description	Code
R7861	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R7863	VRD-RA2BE332J	R	3.3k 1/8W Carbon	AA
R7864	VRD-RM2HD561J	R	560 1/2W Carbon	AA
R7865	VRD-RM2HD561J	R	560 1/2W Carbon	AA
R8301	VRD-RA2BE271J	R	270 1/8W Carbon	AA
R8302	VRD-RA2BE271J	R	270 1/8W Carbon	AA
R8303	VRD-RA2BE331J	R	330 1/8W Carbon	AA
R8304	VRD-RA2BE331J	R	330 1/8W Carbon	AA
R8305	VRD-RA2BE331J	R	330 1/8W Carbon	AA

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MAIN UNIT (Continued)

SWITCHES

S1001	QSW-P0596CEZZ	R	Stand-by Switch		AH
⚠ S1701	QSW-P0588CEZZ	R	Main Switch		AP
S7701	QSW-F0042AJZZ	R	Rec Tip Switch		AG

MISCELLANEOUS PARTS

FB1001	RBLN-0037CEZZ	R	Ferrite Bead	AB
FB1002	RBLN-0037CEZZ	R	Ferrite Bead	AB
FB1003	RBLN-0037CEZZ	R	Ferrite Bead	AB
FB1004	RBLN-0037CEZZ	R	Ferrite Bead	AB
FB7701	RBLN-0036CEZZ	R	Ferrite Bead	AB
FB7702	RBLN-0036CEZZ	R	Ferrite Bead	AB
P780	QPLGN0861CEZZ	R	Plug, 8-pin (PA)	AC
P801	QPLGN1041CEZZ	R	Plug, 10-pin (AM)	AC
P802	QPLGN0941CEZZ	R	Plug, 9-pin (AN)	AC
P803	QPLGN0561CEZZ	R	Plug, 5-pin (K)	AB
P1001	QPLGN0561CEZZ	R	Plug, 5-pin	AB
P1002	QPLGN0342CEZZ	R	Plug, 3-pin (AO)	AA
P1003	QPLGZ0430GEZZ	R	Plug, 4-pin	AB
P1004	QPLGZ1040CEZZ	R	Plug, 10-pin (MB)	AE
P1005	QPLGZ1040CEZZ	R	Plug, 10-pin (MA)	AE
P1301	QPLGN0261CEZZ	R	Plug, 2-pin (S)	AB
P1302	QPLGN0861CEZZ	R	Plug, 8-pin (AJ)	AC
P1303	QPLGN0561CEZZ	R	Plug, 5-pin (AV)	AB
P1304	QPLGN0261CEZZ	R	Plug, 2-pin (PB)	AB
P1703	QPLGN0269GEZZ	R	Plug, 2-pin (AB)	AB
P1704	QPLGN0304CEZZ	R	Plug, 3-pin (B)	AB
P1705	QPLGN0207CEZZ	R	Plug, 2-pin (G)	AA
P2201	QPLGN0361CEZZ	R	Plug, 3-pin	AB
P3301	QPLGN0352GEZZ	R	Plug, 3-pin	AA
P7702	QPLGN0252GEZZ	R	Plug, 2-pin	AA
P7706	QPLGZ0883GEZZ	R	Plug, 8-pin (AC)	AD
SC1003	QSOCZ0430GEZZ	R	Socket, 4-pin	AB
SC3301	QSOCN0499REZZ	R	Socket, 4-pin (AH)	AC
SC6601	QSOCN0695REZZ	R	Socket, 6-pin (AA)	AB
SC6602	QSOCZ0293GEZZ	R	Socket, 2-pin (AE)	AC
SC7701	QSOCN0795REZZ	R	Socket, 7-pin (AD)	AC
SC7702	QSOCZ0292GEZZ	R	Socket, 2-pin (AL)	AC
RMC1001	RRMCU0222CEZZ	R	R/C Receiver	AL
LB301	LX-BZ0007PEFD	J	Screw	AA
LB781	LX-BZ3100CEFD	R	Screw	AA
LB782	LX-BZ3100CEFD	R	Screw	AA
RDA351	PRDAR0142PEFW	J	Heat Sink, for IC351	AD
RDA780	PRDAR0232PEFW	J	Heat Sink, for IC780/Q780	AF
TP801	QLUGP0102PEZZ	J	Lug, Test Point	AA
TP802	QLUGP0102PEZZ	J	Lug, Test Point	AA
	LHLDP1057PEZZ	J	Holder, for LED	AD
	LHLDW1019PEZZ	J	Holder	AB
	LHLDZ1962AJ00	J	Holder, for Start/End Sensor	AD
	PSLDM0251PEFW	J	Shield, for H/A (Top)	AD
	PSLDM0252PEFW	J	Shield, for H/A (Bottom)	AD

PWB-B: DUNTK9570WEV0/V1
TUNER/DEF UNIT

TUNER

NOTE: THE PARTS HERE SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDENTLY.

⚠ TU201	VTUVTST6HD64/	R	Tuner	BF

INTEGRATED CIRCUITS

IC201	RH-iX0037CEZZ	R	UPC574J	AF
IC301	VHiTA7348P/-1	J	Audio Select Switch	AK
IC401	VHiTA7348P/-1	J	Video Select Switch	AK
IC501	VHiLA7830//-1	R	Vertical Output	AH
IC602	VHiKA7809AP-1	J	9V Regulator	AE

TRANSISTORS

Q401	VS2SC3198-G-1	R	2SC3198(G)	AA
Q601	VS2SC2482//-1	R	2SC2482	AD
⚠ Q602	VS2SD1877//1E	R	2SD1877 (VT-G14)	AL
⚠ Q602	VS2SD2586//1E	R	2SD2586 (VT-G21)	AM
⚠ Q603	VS2SC3198-G-1	R	2SC3198(G)	AA
Q784	VSKTA1024-Y-1	R	KTA1024(Y)	AD
Q785	VS2SC2229O/1E	R	2SC2229(O)	AD

DIODES

D201	RH-EX1222CEZZ	R	Zener Diode, 6.2V	AE
D401	VHD1SS119//-1	R	Diode	AB
D402	VHD1SS119//-1	R	Diode	AB
D501	RH-DX0127CEZZ	R	Diode	AC
D502	RH-EX0653GEZZ	R	Zener Diode, 17.9V	AB
D503	VHD1SS119//-1	R	Diode	AB
D504	RH-DX0279CEZZ	R	Diode	AB
D601	RH-DX0415CEZZ	R	Diode	AC
D602	RH-DX0279CEZZ	R	Diode	AB
D603	RH-DX0073CEZZ	R	Diode	AD
D604	RH-EX0631GEZZ	R	Zener Diode, 9.1V	AA
D605	RH-DX0279CEZZ	R	Diode	AB
D606	VHD1SS119//-1	R	Diode	AB
⚠ D607	RH-EX0660GEZZ	R	Zener Diode, 21.6V	AC
D609	VHD1SS119//-1	R	Diode	AB
D610	RH-EX0604GEZZ	R	Zener Diode, 4V	AB
⚠ VA1701	RH-VX0048CEZZ	R	Varistor	AE

COILS AND TRANSFORMERS

L201	VP-DF120K0000	R	Peaking 12µH	AB
L202	VP-DF120K0000	R	Peaking 12µH	AB
L203	VP-DF270K0000	R	Peaking 27µH	AB
L401	VP-CF330K0000	R	Peaking 33µH	AB
L402	VP-DF120K0000	R	Peaking 12µH	AB
L601	VP-CF1R5M0000	R	Peaking 1.5µH (VT-G14)	AB
L601	VP-CF1R0M0000	R	Peaking 1µH (VT-G21)	AB
L602	RCiLP0223CEZZ	R	Coil 3.3mH	AE
⚠ L1701	RCiLF0154CEZZ	R	Coil Line Filter	AQ
⚠ L1702	RCiLF0154CEZZ	R	Coil Line Filter	AQ
T601	RTRNZ0179CEZZ	R	Horizontal Drive Trans. (VT-G14)	AE
T601	RTRNZ0026PEZZ	J	Horizontal Drive Trans. (VT-G21)	AH
⚠ T602	RTRNF0141PEZZ	J	Flyback Trans. (VT-G14)	BC
⚠ T602	RTRNF0147PEZZ	J	Flyback Trans. (VT-G21)	BC

CAPACITORS

C201	VCEA0A1CW226M	R	22	16V	Electrolytic	AB
C202	VCEA0A1CW337M	R	330	16V	Electrolytic	AC
C203	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C204	VCEA0A1CW107M	R	100	16V	Electrolytic	AC
C205	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C206	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C207	VCEA0A1HW106M	R	10	50V	Electrolytic	AB
C236	VCCCCY1HH151J	R	150p	50V	Ceramic	AA

PWB-B: DUNTK9570WEV0/V1
TUNER/DEF UNIT (Continued)

Ref. No.	Part No.	★	Description			Code
C237	VCCCCY1HH151J	R	150p	50V	Ceramic	AA
C301	VCEA0A1HW106M	R	10	50V	Electrolytic	AB
C302	VCEA0A1CW476M	R	47	16V	Electrolytic	AB
C304	VCEA0A1HW106M	R	10	50V	Electrolytic	AB
C310	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C311	VCEA0A1HW106M	R	10	50V	Electrolytic	AB
C312	VCKYCY1HB102K	R	1000p	50V	Ceramic	AA
C401	VCEA0A1CW106M	R	10 (VT-G14)	16V	Electrolytic	AB
C401	VCEA0A1HW106M	R	10 (VT-G21)	50V	Electrolytic	AB
C402	VCEA0A1CW476M	R	47	16V	Electrolytic	AB
C404	VCEA0A1CW476M	R	47	16V	Electrolytic	AB
C405	VCCCCY1HH390J	R	39p	50V	Ceramic	AA
C406	VCEA0A1CW477M	R	470	16V	Electrolytic	AC
C501	VCKYPA2HB102K	R	1000p	500V	Ceramic	AA
C502	VCEA0A1VW477M	R	470 (VT-G14)	35V	Electrolytic	AB
C502	VCEA0A1VW108M	R	1000 (VT-G21)	35V	Electrolytic	AD
C503	VCQYTA1HM104J	R	0.1	50V	Mylar	AA
C504	VCEA0A1EW108M	R	1000	25V	Electrolytic	AD
C505	VCQYTA1HM683J	R	0.068	50V	Mylar	AB
C506	VCEACA1HC474M	R	0.47 (VT-G14)	50V	Electrolytic	AB
C506	VCEACA1HC105M	R	1 (VT-G21)	50V	Electrolytic	AC
C507	VCQYTA1HM152J	R	1500p	50V	Mylar	AA
C509	VCQYTA1HM272J	R	2700p	50V	Mylar	AA
C510	VCKYPA1HB102K	R	1000p	50V	Ceramic	AA
C511	VCEA0A1VW107M	R	100	35V	Electrolytic	AC
C512	VCQYTA1HM104J	R	0.1	50V	Mylar	AA
C601	VCKYPA2HB102K	R	1000p	500V	Ceramic	AA
C602	VCEA0A1EW477M	R	470	25V	Electrolytic	AD
C603	VCEA0A2AW106M	R	10	100V	Electrolytic	AC
⚠ C604	RC-KZ0036CEZZ	R	330p (VT-G14)	2kV	Ceramic	AB
⚠ C604	RC-KZ0040CEZZ	R	820p (VT-G21)	2kV	Ceramic	AD
⚠ C605	VCFPPD3CA622H	R	6200p (VT-G14)	1.6kV	Polypro Film	AE
⚠ C605	VCFPPD3CA822H	R	8200p (VT-G21)	1.6kV	Polypro Film	AE
C606	VCFPPD2DB474J	R	0.47 (VT-G14)	200V	Polypro Film	AE
C606	VCFPPD2DB564J	R	0.56 (VT-G21)	200V	Polypro Film	AF
C607	VCFPPC2DB224J	R	0.22	200V	Polypro Film	AE
C608	VCQYTA1HM104J	R	0.1	50V	Mylar	AA
⚠ C609	VCEA0A1HW105M	R	1	50V	Electrolytic	AB
⚠ C610	VCEA0A1HW105M	R	1	50V	Electrolytic	AB
⚠ C611	VCKYPA1HF103Z	R	0.01	50V	Ceramic	AA
C612	VCKYPA2HB102K	R	1000p	500V	Ceramic	AA
C613	VCFYSB2EB823J	R	0.082	250V	Mylar	AD
C615	VCKYPA1HF103Z	R	0.01	50V	Ceramic	AA
C617	VCEA0A1CW476M	R	47	16V	Electrolytic	AB
⚠ C1701	RC-FZ008SGEZZ	R	0.1	AC250V	Special	AD
⚠ C1702	RC-FZ008SGEZZ	R	0.1	AC250V	Special	AD

RESISTORS

RJ1	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ2	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ3	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
RJ4	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
R201	VRS-CY1JF273J	R	27k	1/16W	Metal Oxide	AA
R202	VRS-CY1JF680J	R	68	1/16W	Metal Oxide	AA
R203	VRS-CY1JF680J	R	68	1/16W	Metal Oxide	AA
R204	VRD-RA2BE101J	R	100	1/8W	Carbon	AB
R301	VRS-CY1JF101J	R	100	1/16W	Metal Oxide	AA
R303	VRS-CY1JF821J	R	820	1/16W	Metal Oxide	AA
R304	VRS-CY1JF104J	R	100k	1/16W	Metal Oxide	AA
R305	VRS-CY1JF472J	R	4.7k	1/16W	Metal Oxide	AA
R316	VRS-CY1JF153J	R	15k	1/16W	Metal Oxide	AA
R317	VRS-CY1JF101J	R	100	1/16W	Metal Oxide	AA
R318	VRS-CY1JF101J	R	100	1/16W	Metal Oxide	AA
R401	VRS-CY1JF101J	R	100	1/16W	Metal Oxide	AA
R402	VRD-RA2EE750J	R	75	1/4W	Carbon	AA
R403	VRS-CY1JF101J	R	100	1/16W	Metal Oxide	AA
R404	VRS-VV3AB121J	R	120	1W	Metal Oxide	AA
R405	VRD-RA2EE750J	R	75	1/4W	Carbon	AA
R406	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R407	VRD-RA2BE221J	R	220	1/8W	Carbon	AA
R429	VRD-RA2BE101J	R	100	1/8W	Carbon	AB
R430	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R431	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R501	VRD-RM2HD182J	R	1.8k (VT-G21)	1/2W	Carbon	AA
R502	VRS-CY1JF563J	R	56k	1/16W	Metal Oxide	AA
R503	VRD-RM2HD271J	R	270 (VT-G14)	1/2W	Carbon	AA
R503	VRD-RM2HD221J	R	220 (VT-G21)	1/2W	Carbon	AA
R504	VRS-CY1JF124J	R	120k	1/16W	Metal Oxide	AA
R505	VRS-CY1JF223J	R	22k	1/16W	Metal Oxide	AA
R506	VRS-CY1JF473J	R	47k	1/16W	Metal Oxide	AA
R507	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R508	VRN-SV2HB2R2J	R	2.2 (VT-G14)	1/2W	Metal Film	AA
R508	VRN-SV2HB1R8J	R	1.8 (VT-G21)	1/2W	Metal Film	AA
R509	VRD-RA2BE330J	R	33 (VT-G21)	1/8W	Carbon	AA
R510	VRD-RA2BE221J	R	220	1/8W	Carbon	AA
R511	VRS-CY1JF392J	R	3.9k	1/16W	Metal Oxide	AA
R512	VRD-RA2BE471J	R	470	1/8W	Carbon	AA
⚠ R513	RR-XZ0035TAZZ	R	22	1/4W	Fuse Resistor	AB
R601	VRD-RM2HD223J	R	22k	1/2W	Carbon	AA
R602	VRD-RM2HD682J	R	6.8k	1/2W	Carbon	AA
R603	VRN-RV3AB1R2J	R	1.2 (VT-G14)	1W	Metal Film	AB
R603	VRN-RV3ABR56J	R	0.56 (VT-G21)	1W	Metal Film	AB
R604	VRW-KQ3HC4R7K	R	4.7	5W	Cement	AE
⚠ R605	RR-XZ0073CEZZ	R	270 (VT-G14)	1/2W	Fuse Resistor	AB
R605	VRD-RM2HD390J	R	39 (VT-G21)	1/2W	Carbon	AA
⚠ R606	VRG-PD2HD820J	R	82 (VT-G21)	1/2W	Fuse Resistor	AC
R607	VRD-RM2HD680J	R	68	1/2W	Carbon	AA
R608	VRS-SU2HB102J	R	1k	1/2W	Metal Oxide	AA
R609	VRD-RA2BE333J	R	33k	1/8W	Carbon	AA
⚠ R610	VRS-CY1JF154J	R	150k	1/16W	Metal Oxide	AA
⚠ R611	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
⚠ R612	VRS-CY1JF123J	R	12k	1/16W	Metal Oxide	AA
R613	VRD-RA2BE103J	R	10k	1/8W	Carbon	AA
R614	VRD-RA2BE103J	R	10k	1/8W	Carbon	AA
R615	VRD-RA2BE123J	R	12k	1/8W	Carbon	AA
R616	VRD-RA2BE683J	R	68k (VT-G14)	1/8W	Carbon	AA
R616	VRD-RA2BE273J	R	27k (VT-G21)	1/8W	Carbon	AA
R617	VRD-RA2BE333J	R	33k (VT-G14)	1/8W	Carbon	AA
R617	VRD-RA2BE473J	R	47k (VT-G21)	1/8W	Carbon	AA
R618	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R619	VRD-RA2BE391J	R	390	1/8W	Carbon	AA
R620	VRS-KT3LB472J	R	4.7k (VT-G14)	3W	Metal Oxide	AC
R620	VRS-KT3LB392J	R	3.9k (VT-G21)	3W	Metal Oxide	AC
R621	VRD-RM2HD392J	R	3.9k (VT-G14)	1/2W	Carbon	AA
R621	VRD-RM2HD472J	R	4.7k (VT-G21)	1/2W	Carbon	AA

Ref. No.	Part No.	★	Description	Code
R624	VRD-RM2HD2R7J	R	2.7 1/2W Carbon	AA
R625	VRD-RM2HD2R7J	R	2.7 1/2W Carbon	AA
R626	VRS-CY1JF103J	R	10k 1/16W Metal Oxide	AA
R788	VRD-RA2BE223J	R	22k 1/8W Carbon	AA
R789	VRD-RA2BE563J	R	56k 1/8W Carbon	AA
R790	VRD-RA2EE104J	R	100k 1/4W Carbon	AA
R791	VRD-RA2BE104J	R	100k 1/8W Carbon	AA
⚠ R1701	VRC-UA2HG275K	R	2.7M 1/2W Solid	AA

PWB-B: DUNTK9570WEV0/V1
TUNER/DEF UNIT (Continued)

MISCELLANEOUS PARTS

CN1701	QCNW-2254PEZZ	J	Connecting Cord	AG
⚠ F601	QFS-J1023CEZZ	R	IC Protector (1A)	AE
⚠ F1701	QFS-C3229CEZZ	R	Fuse T3.15A (250V)	AD
FB301	RBLN-0037CEZZ	R	Ferrite Bead	AB
FB601	RBLN-0037CEZZ	R	Ferrite Bead	AB
FH1701	QFSHD1017CEZZ	R	Fuse Holder	AC
FH1702	QFSHD1018CEZZ	R	Fuse Holder	AC
J401	QTANJ0429CEZZ	R	AV Terminal, Rear	AH
P201	QPLGN0261CEZZ	R	Plug, 2-pin (TP201)	AB
P401	QPLGN0941CEZZ	R	Plug, 9-pin (AN)	AC
P402	QPLGN0561CEZZ	R	Plug, 5-pin (AV)	AB
P601	QPLGN0461CEZZ	R	Plug, 4-pin (H)	AB
P602	QPLGN0603CEZZ	R	Plug, 6-pin (F)	AB
P604	QPLGN1041CEZZ	R	Plug, 10-pin (AM)	AC
P754	QPLGN0361CEZZ	R	Plug, 3-pin (PC)	AB
P1701	QPLGN0269GEZZ	R	Plug, 2-pin (A)	AB
SC201	QSOCN0785CEZZ	R	Socket, 7-pin (IA)	AC
SC202	QSOCN0785CEZZ	R	Socket, 7-pin (IB)	AC
SC203	QSOCZ1040CEZZ	R	Socket, 10-pin (MA)	AD
SC204	QSOCZ1040CEZZ	R	Socket, 10-pin (MB)	AD
HM601	LX-GZ3001PEZZ	J	HATOME	AB
HM602	LX-GZ3001PEZZ	J	HATOME	AB
HM603	LX-GZ3001PEZZ	J	HATOME	AB
HM604	LX-GZ3001PEZZ	J	HATOME	AB
HM605	LX-GZ3001PEZZ	J	HATOME	AB
HM606	LX-GZ3001PEZZ	J	HATOME	AB
HM607	LX-GZ3001PEZZ	J	HATOME	AB
HM608	LX-GZ3002PEZZ	J	HATOME	AB
HM609	LX-GZ3002PEZZ	J	HATOME	AB
HM610	LX-GZ3002PEZZ	J	HATOME	AB
HM611	LX-GZ3002PEZZ	J	HATOME	AB
HM612	LX-GZ3002PEZZ	J	HATOME	AB
HM613	LX-GZ3002PEZZ	J	HATOME	AB
LB601	LX-BZ3100CEFD	R	Screw, for Q602	AA
RDA501	PRDAR0223PEFW	J	Heat Sink, for IC501	AF
RDA601	PRDAR0224PEFW	J	Heat Sink, for Q602	AF
	LHLDW1002PEZZ	J	Holder	AB
	LX-TZ3004CEFD	R	Screw, for T602	AA
	LX-BZ3100CEFD	R	Screw, for IC501	AA

Ref. No.	Part No.	★	Description	Code

PWB-C: DUNTK9569FMV0/V1
POWER UNIT

INTEGRATED CIRCUITS

⚠ IC701	VHiSTRF6654-1	R	Power Control	AX
⚠ IC751	VHiSE115N//-1	R	Error Detector	AF

TRANSISTORS

Q701	VS2SC2229O/1E	R	2SC2229(O)	AD
Q702	VSDTC144ES/-1	R	DTC144ES	AB
Q703	VSDTC144ES/-1	R	DTC144ES	AB
Q751	VSDTC144ES/-1	R	DTC144ES	AB
Q752	VS2SA1266-Y-1	R	2SA1266(Y)	AA
Q753	VS2SC3198-G-1	R	2SC3198(G)	AA
Q754	VS2SA1266-Y-1	R	2SA1266(Y)	AA
Q755	VSDTC144ES/-1	R	DTC144ES	AB
Q757	VSKTA1024-Y-1	R	KTA1024(Y)	AD
Q758	VS2SC2229O/1E	R	2SC2229(O)	AD
Q761	VS2SD1944K/-1	R	2SD1944(K)	AE

DIODES

D701	RH-DX0386CEZZ	R	Diode	AG
D705	VHD1SS82///1A	R	Diode	AC
D706	VHD1SS82///1A	R	Diode	AC
D707	RH-DX0164CEZZ	R	Diode	AC
D708	VHD1SS119//-1	R	Diode	AB
D709	RH-EX0601GEZZ	R	Zener Diode, 3.6V	AA
D710	RH-DX0066GEZZ	R	Diode	AB
D711	RH-EX0676GEZZ	R	Zener Diode, 31.7V	AA
D712	RH-DX0279CEZZ	R	Diode	AB
D713	RH-EX0676GEZZ	R	Zener Diode, 31.7V	AA
D714	RH-EX0656GEZZ	R	Zener Diode, 19.7V	AC
D751	RH-DX0349CEZZ	R	Diode	AC
D752	RH-DX0461CEZZ	R	Diode	AG
D753	RH-DX0473CEZZ	R	Diode	AK
D754	RH-DX0473CEZZ	R	Diode	AK
D755	RH-EX0645GEZZ	R	Zener Diode, 13.8V	AB
D756	VHD1SS119//-1	R	Diode	AB
D759	RH-EX0610GEZZ	R	Zener Diode, 4.8V	AA
D760	VHD1SS119//-1	R	Diode	AB
D763	RH-EX0608GEZZ	R	Zener Diode, 4.6V	AA
D764	RH-DX0460CEZZ	R	Diode	AF
D766	VHD1SS119//-1	R	Diode	AB
D767	RH-EX0645GEZZ	R	Zener Diode, 13.8V	AB
D768	RH-EX0665GEZZ	R	Zener Diode, 24.2V	AA
D769	VHD1SS119//-1	R	Diode	AB
D770	RH-EX0631GEZZ	R	Zener Diode	AA
D771	VHD1SS119//-1	R	Diode	AB
D772	VHD1SS119//-1	R	Diode	AB
⚠ IC702	RH-FX0008GEZZ	R	Photo Coupler	AE
⚠ IC703	RH-FX0008GEZZ	R	Photo Coupler	AE

COILS AND TRANSFORMERS

L751	RCiLP0179CEZZ	R	Coil 47µH	AD
L752	RCiLP0171CEZZ	R	Coil 10µH	AD
⚠ T701	RTRNZ0134PEZZ	J	Transformer	AX

CAPACITORS

C701	RC-KZ0160GEZZ	R	0.01	AC250V	Ceramic	AC
C702	RC-KZ0160GEZZ	R	0.01	AC250V	Ceramic	AC
C703	RC-KZ0160GEZZ	R	0.01	AC250V	Ceramic	AC
C704	RC-EZ1046CEZZ	R	220 (VT-G14)	400V	Electrolytic	AN
C704	RC-EZ0688CEZZ	R	330 (VT-G21)	400V	Electrolytic	AV
C705	RC-QZA821TAYJ	R	820p	50V	Mylar	AB
C706	VCKYPA1HB102K	R	1000p	50V	Ceramic	AA
C707	VCQPSC2JA333K	R	0.033	630V	Polypro Film	AB
C708	VCFPPC3CA182J	R	1800p	1.6kV	Polypro Film	AD
C709	RC-KZ0338CEZZ	R	560	2kV	Ceramic	AD
C710	VCQYTA1HM103J	R	0.01	50V	Mylar	AA
C711	VCKYPA2HB102K	R	1000p	500V	Ceramic	AA
C712	VCEA0A1VW108M	R	1000	35V	Electrolytic	AD
C713	VCEA0A1VW476M	R	47	35V	Electrolytic	AB

PWB-C: DUNTK9569FMV0/V1
POWER UNIT (Continued)

Ref. No.	Part No.	★	Description			Code
C714	VCEA0A1HW106M	R	10	50V	Electrolytic	AB
C715	VCEA0A1VW476M	R	47	35V	Electrolytic	AB
C716	VCEA0A1HW106M	R	10	50V	Electrolytic	AB
⚠ C740	RC-KZ0128CEZZ	R	2200p	4kV	Ceramic	AD
C751	VCKYPA2HB102K	R	1000p	500V	Ceramic	AA
C753	RC-KZ0341CEZZ	R	1000p	2kV	Ceramic	AD
C754	VCKYPA2HB102K	R	1000p	500V	Ceramic	AA
C755	VCKYPA2HB102K	R	1000p	500V	Ceramic	AA
C756	VCEA0A1EW108M	R	1000	25V	Electrolytic	AD
C757	VCEA0W2DW227M	R	220	200V	Electrolytic	AN
C758	VCEA0V2CW107M	R	100	160V	Electrolytic	AG
C759	VCEA0A1EW108M	R	1000	25V	Electrolytic	AD
C760	VCEA0A1CW108M	R	1000	16V	Electrolytic	AD
C761	VCKYPA1HF103Z	R	0.01	50V	Ceramic	AA
C762	VCEA0A1HW474M	R	0.47	50V	Electrolytic	AB
C763	VCEA0A1HW105M	R	1	50V	Electrolytic	AB
C765	VCQYTA1HM104J	R	0.1	50V	Mylar	AA
C766	VCKYPA2HB102K	R	1000p	500V	Ceramic	AA
C767	VCEA0A1HW108M	R	1000	50V	Electrolytic	AE
C768	VCEA0A1VW107M	R	100	35V	Electrolytic	AC
C769	VCKYPA2HB102K	R	1000p	500V	Ceramic	AA
C770	VCEA0A1EW477M	R	470	25V	Electrolytic	AD

RESISTORS

R701	VRW-KQ41C3R3K	R	3.3	15W	Cement	AG
R702	VRS-KT3LB473J	R	47k	3W	Metal Oxide	AE
R703	VRS-KT3LB473J	R	47k	3W	Metal Oxide	AE
R705	VRD-RM2HD182J	R	1.8k	1/2W	Carbon	AA
R706	VRD-RM2HD272J	R	2.7k	1/2W	Carbon	AA
R707	VRD-RA2BE332J	R	3.3k	1/8W	Carbon	AA
R708	VRS-KT3LB473J	R	47k	3W	Metal Oxide	AE
R709	VRN-VV3ABR39J	R	0.39 (VT-G14)	1W	Metal Film	AA
R709	VRN-VV3ABR27J	R	0.27 (VT-G21)	1W	Metal Film	AA
R710	VRN-VV3ABR39J	R	0.39 (VT-G14)	1W	Metal Film	AA
R710	VRN-VV3ABR27J	R	0.27 (VT-G21)	1W	Metal Film	AA
R711	VRD-RA2BE681J	R	680	1/8W	Carbon	AA
R712	VRD-RA2BE102J	R	1k	1/8W	Carbon	AA
R713	VRD-RA2BE103J	R	10k	1/8W	Carbon	AA
R714	VRD-RA2EE274J	R	270k	1/4W	Carbon	AA
R715	VRS-VV3AB102J	R	1k	1W	Metal Oxide	AA
⚠ R716	VRG-RL2HB3R3J	R	3.3	1/2W	Fuse Resistor	AB
R717	VRD-RA2EE274J	R	270k	1/4W	Carbon	AA
⚠ R740	VRC-UA2HG825K	R	8.2M	1/2W	Solid	AA
⚠ R741	VRC-UA2HG825K	R	8.2M	1/2W	Solid	AA
R743	VRD-RA2BE473J	R	47k	1/8W	Carbon	AA
R744	VRD-RA2BE473J	R	47k	1/8W	Carbon	AA
R745	VRD-RA2BE104J	R	100k	1/8W	Carbon	AA
R746	VRD-RA2BE473J	R	47k	1/8W	Carbon	AA
R747	VRD-RM2HD273J	R	27k	1/2W	Carbon	AA
R748	VRD-RA2BE472J	R	4.7k	1/8W	Carbon	AA
R751	VRD-RM2HD122J	R	1.2k	1/2W	Carbon	AA
R753	VRD-RA2BE472J	R	4.7k	1/8W	Carbon	AA
R754	RR-SZ0026CEZZ	R	2.7	3W	Metal Oxide	AF
R755	VRS-VV3DB223J	R	22k	2W	Metal Oxide	AA
R756	VRD-RA2BE103J	R	10k	1/8W	Carbon	AA
R757	VRD-RA2BE220J	R	22	1/8W	Carbon	AA
R759	VRD-RA2BE392J	R	3.9k	1/8W	Carbon	AA
R760	VRD-RA2BE392J	R	3.9k	1/8W	Carbon	AA
R761	VRD-RA2BE682J	R	6.8k	1/8W	Carbon	AA
R762	VRD-RA2BE272J	R	2.7k	1/8W	Carbon	AA
R763	VRD-RA2BE473J	R	47k	1/8W	Carbon	AA
R764	VRD-RM2HD681J	R	680	1/2W	Carbon	AA
R765	VRD-RA2BE470J	R	47	1/8W	Carbon	AA
R766	VRD-RA2BE392J	R	3.9k	1/8W	Carbon	AA
R767	VRD-RA2BE222J	R	2.2k	1/8W	Carbon	AA
R771	VRD-RA2EE102J	R	1k	1/4W	Carbon	AA
R772	VRD-RA2BE473J	R	47k	1/8W	Carbon	AA
R774	VRD-RA2BE104J	R	100k	1/8W	Carbon	AA
R775	VRD-RM2HD331J	R	330	1/2W	Carbon	AA

MISCELLANEOUS PARTS

RY751	RRLYU0038CEZZ	R	Relay			AM
FB701	RBLN-0037CEZZ	R	Ferrite Bead			AB
FB703	RBLN-0037CEZZ	R	Ferrite Bead			AB
FB704	RBLN-0014GEZZ	R	Ferrite Bead			AB
FB705	RBLN-0037CEZZ	R	Ferrite Bead			AB
FB706	RBLN-0037CEZZ	R	Ferrite Bead			AB
FB751	RBLN-0037CEZZ	R	Ferrite Bead			AB
FB752	RBLN-0037CEZZ	R	Ferrite Bead			AB
FB753	RBLN-0037CEZZ	R	Ferrite Bead			AB
FB754	RBLN-0037CEZZ	R	Ferrite Bead			AB
FB755	RBLN-0037CEZZ	R	Ferrite Bead			AB
FB756	RBLN-0037CEZZ	R	Ferrite Bead			AB
P701	QPLGN0304CEZZ	R	Plug, 3-pin (B)			AB
P751	QPLGN0861CEZZ	R	Plug, 8-pin (PA)			AC
P752	QPLGN0261CEZZ	R	Plug, 2-pin (PB)			AB
P753	QPLGN0361CEZZ	R	Plug, 3-pin (PC)			AB
HM701	LX-GZ3001PEZZ	J	HATOME			AB
HM702	LX-GZ3001PEZZ	J	HATOME			AB
HM703	LX-GZ3001PEZZ	J	HATOME			AB
HM704	LX-GZ3001PEZZ	J	HATOME			AB
HM705	LX-GZ3002PEZZ	J	HATOME			AB
HM706	LX-GZ3002PEZZ	J	HATOME			AB
HM707	LX-GZ3002PEZZ	J	HATOME			AB
HM708	LX-GZ3002PEZZ	J	HATOME			AB
LB701	LX-BZ0086TAFD	R	Screw			AA
RDA701	PRDAR0240PEFW	J	Heat Sink, for IC701			AQ
	LANGT0036PEFW	J	Fixing Metal			AL
	LX-BZ3100CEFD	R	Screw			AA

Ref. No.	Part No.	★	Description	Code

PWB-D: DUNTK9571WEV0/V1
CRT UNIT

TRANSISTORS

Q1801	VS2SC2229O/1E	R	2SC2229 (VT-G14)	AD
Q1801	VS2SC3789//1E	R	2SC3789 (VT-G21)	AE
Q1802	VS2SC2229O/1E	R	2SC2229 (VT-G14)	AD
Q1802	VS2SC3789//1E	R	2SC3789 (VT-G21)	AE
Q1803	VS2SC2229O/1E	R	2SC2229 (VT-G14)	AD
Q1803	VS2SC3789//1E	R	2SC3789 (VT-G21)	AE
Q1804	VS2SA1266-Y-1	R	2SA1266(Y)	AA

DIODES

D1801	VHD1SS119//-1	R	Diode	AB
D1802	VHD1SS119//-1	R	Diode	AB
D1803	VHD1SS119//-1	R	Diode	AB

COIL

L1801	VP-CF681K0000	R	Peaking 680µH	AB

CAPACITORS

C1801	VCEA0A1HW106M	R	10	50V	Electrolytic	AB
C1802	VCEA0A1HW106M	R	10	50V	Electrolytic	AB
C1803	VCKYPA1HB391K	R	390p	50V	Ceramic	AA
C1804	VCKYPA1HB391K	R	390p	50V	Ceramic	AA
C1805	VCKYPA1HB391K	R	390p	50V	Ceramic	AA
C1806	VCEA0A2DW106M	R	10 (VT-G14)	200V	Electrolytic	AD
C1806	VCEA0A2EW106M	R	10 (VT-G21)	250V	Electrolytic	AD
C1807	RC-KZ0093GEZZ	R	4700p	2kV	Ceramic	AD
C1808	VCKYPA1HB102K	R	1000p	50V	Ceramic	AA

RESISTORS

R1801	VRD-RA2BE272J	R	2.7k	1/8W	Carbon	AA
R1802	VRD-RA2BE152J	R	1.5k	1/8W	Carbon	AA
R1803	VRD-RA2BE152J	R	1.5k	1/8W	Carbon	AA
R1804	VRD-RA2BE471J	R	470	1/8W	Carbon	AA
R1805	VRD-RA2BE560J	R	56	1/8W	Carbon	AA
R1806	VRD-RA2BE560J	R	56 (VT-G21)	1/8W	Carbon	AA
R1807	VRD-RA2BE560J	R	56 (VT-G14)	1/8W	Carbon	AA
R1808	VRD-RA2BE560J	R	56 (VT-G14)	1/8W	Carbon	AA
R1809	VRD-RA2BE560J	R	56 (VT-G21)	1/8W	Carbon	AA
R1810	VRD-RA2BE561J	R	560	1/8W	Carbon	AA
R1811	VRD-RA2BE471J	R	470	1/8W	Carbon	AA
R1812	VRD-RA2BE561J	R	560	1/8W	Carbon	AA
R1813	VRD-RA2BE471J	R	470	1/8W	Carbon	AA
R1814	VRD-RA2BE561J	R	560	1/8W	Carbon	AA
R1815	VRD-RA2BE471J	R	470	1/8W	Carbon	AA
R1816	VRS-VV3DB123J	R	12k	2W	Metal Oxide	AA
R1817	VRS-VV3DB123J	R	12k	2W	Metal Oxide	AA
R1818	VRS-VV3DB123J	R	12k	2W	Metal Oxide	AA
R1819	VRD-RM2HD272J	R	2.7k	1/2W	Carbon	AA
R1820	VRD-RM2HD272J	R	2.7k	1/2W	Carbon	AA
R1821	VRD-RM2HD272J	R	2.7k	1/2W	Carbon	AA
R1822	VRD-RA2BE100J	R	10	1/8W	Carbon	AA

MISCELLANEOUS PARTS

CN1801	QCNW-2243PEZZ	J	Connecting Cord (VT-G14)	AF
CN1801	QCNW-2244PEZZ	J	Connecting Cord (VT-G21)	AG
CN1802	QCNW-2241PEZZ	J	Connecting Cord (VT-G14)	AF
CN1802	QCNW-2242PEZZ	J	Connecting Cord (VT-G21)	AF
FB1801	RBLN-0037CEZZ	R	Ferrite Bead	AB
P1801	QPLGN0461CEZZ	R	Plug, 4-pin (H)	AB
P1802	QPLGN0561CEZZ	R	Plug, 5-pin (K)	AB
P1803	QTiPM0083CEZZ	R	Tip (L1)	AB
⚠ SC1801	QSOCV0842CEZZ	R	CRT Socket (VT-G14)	AH
⚠ SC1801	QSOCV0931CEZZ	R	CRT Socket (VT-G21)	AK

PWB-E: DUNTK9572WEV0
FRONT AV UNIT

MISCELLANEOUS PARTS

CN1401	QCNW-2250PEZZ	J	Connecting Cord	AG
J1301	QJAKJ0061CEZZ	R	Jack, Headphone	AH
J1401	QJAKF0049CEZZ	R	AV Jack	AG
P1401	QPLGN0861CEZZ	R	Plug, 8-pin (AJ)	AC

PWB-F: DUNTK9576WEV0/V1
KEY UNIT

RESISTORS

R1101	VRD-RA2BE682J	R	6.8k	1/8W	Carbon	AA
R1102	VRD-RA2BE103J	R	10k	1/8W	Carbon	AA
R1103	VRD-RA2BE153J	R	15k	1/8W	Carbon	AA
R1104	VRD-RA2BE273J	R	27k	1/8W	Carbon	AA
R1105	VRD-RA2BE683J	R	68k	1/8W	Carbon	AA
R1106	VRD-RA2BE682J	R	6.8k	1/8W	Carbon	AA
R1107	VRD-RA2BE103J	R	10k	1/8W	Carbon	AA
R1108	VRD-RA2BE153J	R	15k	1/8W	Carbon	AA
R1109	VRD-RA2BE273J	R	27k	1/8W	Carbon	AA
R1110	VRD-RA2BE683J	R	68k	1/8W	Carbon	AA

SWITCHES

S1100	QSW-K0077GEZZ	R	Stop/Eject (VT-G14)	AB
S1101	QSW-K0077GEZZ	R	FF (VT-G14)	AB
S1101	QSW-K0077GEZZ	R	Stop/Eject (VT-G21)	AB
S1102	QSW-K0077GEZZ	R	Play (VT-G14)	AB
S1102	QSW-K0077GEZZ	R	FF (VT-G21)	AB
S1103	QSW-K0077GEZZ	R	REW (VT-G14)	AB
S1103	QSW-K0077GEZZ	R	Play (VT-G21)	AB
S1104	QSW-K0077GEZZ	R	REW (VT-G21)	AB
S1105	QSW-K0077GEZZ	R	Rec	AB
S1106	QSW-K0077GEZZ	R	S.S.P	AB
S1107	QSW-K0077GEZZ	R	CH-Up	AB
S1108	QSW-K0077GEZZ	R	CH-Down	AB
S1109	QSW-K0077GEZZ	R	VOL-Up	AB
S1110	QSW-K0077GEZZ	R	VOL-Down	AB
S1111	QSW-K0077GEZZ	R	Preset	AB

MISCELLANEOUS PARTS

CN1101	QCNW-5240PEN3	J	Connecting Cord (VT-G14)	AD
CN1101	QCNW-5225PEN3	J	Connecting Cord (VT-G21)	AD
P1101	QPLGN0342CEZZ	R	Plug, 3-pin (AO)	AA

PWB-G: DUNTK9573FMV0/V1
IF UNIT

INTEGRATED CIRCUIT

Ref. No.	Part No.	★	Description	Code
IC251	VHiBA7357S/-1	R	PIF/SIF	AR

TRANSISTORS

Ref. No.	Part No.	★	Description	Code
Q251	VS2SC1906//1E	R	2SC1906	AC
Q252	VSDTC144EK/-1	R	DTC144EK	AB
Q253	VS2SC2412KQ-1	R	2SC2412K	AA
Q254	VSDTC144EK/-1	R	DTC144EK	AB
Q255	VS2SC2412KQ-1	R	2SC2412K	AA
Q256	VS2SC2412KQ-1	R	2SC2412K	AA
Q257	VSDTC144EK/-1	R	DTC144EK	AB
Q258	VSDTC144EK/-1	R	DTC144EK	AB
Q259	VSDTC144EK/-1	R	DTC144EK	AB
Q260	VSDTC144EK/-1	R	DTC144EK	AB
Q261	VSDTC144EK/-1	R	DTC144EK	AB
Q262	VSDTC144EK/-1	R	DTC144EK	AB
Q263	VS2SC3198-G-1	R	2SC3198(G)	AA

DIODES

Ref. No.	Part No.	★	Description	Code
D251	VHD1SS152//-1	R	Diode	AB
D252	RH-EX0621GEZZ	R	Zener Diode, 6.7V	AB
D253	RH-DX0027CEZZ	R	Diode	AE

FILTERS AND COILS

Ref. No.	Part No.	★	Description	Code
CF251	RFiLC0081GEZZ	R	Ceramic Filter 5.0MHz	AD
CF252	RFiLA0042CEZZ	R	Ceramic Filter 6.0MHz	AD
CF253	RFiLA0093CEZZ	R	Ceramic Filter 6.5MHz	AC
L251	VP-XF1R0M0000	R	Peaking 1µH	AB
L253	VP-XF390K0000	R	Peaking 39µH	AB
SF251	RFiLC0001PEZZ	J	S.A.W Filter	AS
T253	RCiLD0238CEZZ	R	Detection Coil	AE
T254	RCiLD0239CEZZ	R	Detection Coil	AE

CONTROL

Ref. No.	Part No.	★	Description	Code
R265	RVR-M4630GEZZ	R	47k (B) RF-AGC	AB

CAPACITORS

Ref. No.	Part No.	★				Code
C251	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C252	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C253	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C254	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C255	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C256	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C257	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C258	VCEA0A1HW106M	R	10	50V	Electrolytic	AB
C259	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C260	VCQYTA1HM104J	R	0.1	50V	Mylar	AA
C261	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C262	VCEA0A1HW225M	R	2.2	50V	Electrolytic	AB
C263	VCEA0A1HW475M	R	4.7	50V	Electrolytic	AB
C264	VCQYTA1HM104J	R	0.1	50V	Mylar	AA
C265	VCQYTA1HM472J	R	4700p	50V	Mylar	AB
C266	VCQYTA1HM103J	R	0.01	50V	Mylar	AA
C267	VCCCCY1HH180J	R	18p	50V	Ceramic	AA
C268	VCCCCY1HH180J	R	18p	50V	Ceramic	AA
C269	VCCCCY1HH220J	R	22p	50V	Ceramic	AA
C270	VCKYCY1HF103Z	R	0.01	50V	Ceramic	AA
C271	VCQYTA1HM104J	R	0.1	50V	Mylar	AA
C272	VCCCCY1HH330J	R	33p	50V	Ceramic	AA
C273	VCEA0A1CW476M	R	47	16V	Electrolytic	AB
C274	VCCCCY1HH220J	R	22p	50V	Ceramic	AA
C275	VCCCCY1HH101J	R	100p	50V	Ceramic	AA
C276	VCFYFA1HA684J	R	0.68	50V	Mylar	AD
C277	VCCCCY1HH470J	R	47p	50V	Ceramic	AA
C278	VCCCCY1HH270J	R	27p	50V	Ceramic	AA

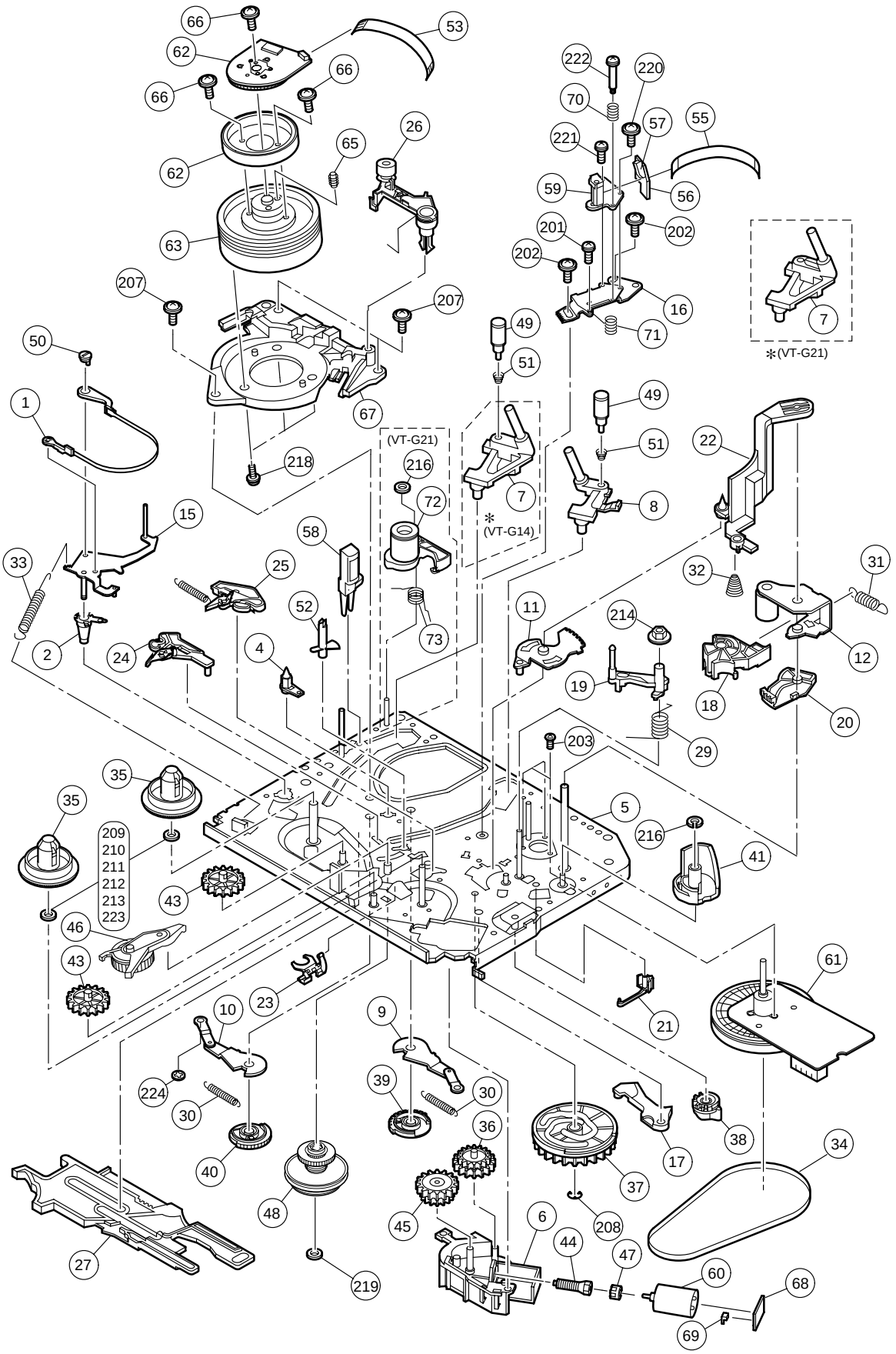
RESISTORS

Ref. No.	Part No.	★				Code
R252	VRS-CY1JF151J	R	150	1/16W	Metal Oxide	AA
R253	VRS-CY1JF680J	R	68	1/16W	Metal Oxide	AA
R254	VRS-CY1JF562J	R	5.6k	1/16W	Metal Oxide	AA
R255	VRS-CY1JF272J	R	2.7k	1/16W	Metal Oxide	AA
R256	VRS-CY1JF561J	R	560	1/16W	Metal Oxide	AA
R257	VRS-CY1JF000J	R	0	1/16W	Metal Oxide	AA
R258	VRS-CY1JF221J	R	220	1/16W	Metal Oxide	AA
R259	VRS-CY1JF562J	R	5.6k	1/16W	Metal Oxide	AA
R260	VRS-CY1JF222J	R	2.2k	1/16W	Metal Oxide	AA
R261	VRS-CY1JF272J	R	2.7k	1/16W	Metal Oxide	AA
R262	VRS-CY1JF154J	R	150k	1/16W	Metal Oxide	AA
R263	VRS-CY1JF273J	R	27k	1/16W	Metal Oxide	AA
R264	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R266	VRS-CY1JF102J	R	1k	1/16W	Metal Oxide	AA
R267	VRS-CY1JF222J	R	2.2k	1/16W	Metal Oxide	AA
R268	VRS-CY1JF473J	R	47k	1/16W	Metal Oxide	AA
R269	VRS-CY1JF473J	R	47k	1/16W	Metal Oxide	AA
R270	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R271	VRS-CY1JF153J	R	15k	1/16W	Metal Oxide	AA
R272	VRS-CY1JF103J	R	10k	1/16W	Metal Oxide	AA
R273	VRS-CY1JF101J	R	100	1/16W	Metal Oxide	AA
R274	VRS-CY1JF222J	R	2.2k	1/16W	Metal Oxide	AA
R275	VRS-CY1JF472J	R	4.7k	1/16W	Metal Oxide	AA
R276	VRS-CY1JF222J	R	2.2k	1/16W	Metal Oxide	AA
R278	VRS-CY1JF393J	R	39k	1/16W	Metal Oxide	AA
R279	VRS-CY1JF822J	R	8.2k	1/16W	Metal Oxide	AA
R280	VRS-CY1JF272J	R	2.7k	1/16W	Metal Oxide	AA
R281	VRS-CY1JF472J	R	4.7k	1/16W	Metal Oxide	AA
R282	VRS-CY1JF472J	R	4.7k	1/16W	Metal Oxide	AA
R283	VRS-CY1JF472J	R	4.7k	1/16W	Metal Oxide	AA
R284	VRS-CY1JF151J	R	150	1/16W	Metal Oxide	AA
R285	VRS-CY1JF392J	R	3.9k	1/16W	Metal Oxide	AA
R286	VRS-CY1JF562J	R	5.6k	1/16W	Metal Oxide	AA
R287	VRD-RM2HD271J	R	270	1/2W	Carbon	AA
R288	VRD-RM2HD221J	R	220	1/2W	Carbon	AA
R290	VRD-RM2HD1R0J	R	1	1/2W	Carbon	AA
R291	VRS-CY1JF332J	R	3.3k (VT-G14)	1/16W	Metal Oxide	AA
R291	VRS-CY1JF152J	R	1.5k (VT-G21)	1/16W	Metal Oxide	AA
R292	VRS-CY1JF184J	R	180k	1/16W	Metal Oxide	AA
R293	VRS-CY1JF223J	R	22k	1/16W	Metal Oxide	AA
R295	VRS-CY1JF395J	R	3.9M	1/16W	Metal Oxide	AA

MISCELLANEOUS PARTS

Ref. No.	Part No.	★	Description	Code
P251	QPLGN0785CEZZ	R	Plug, 7-pin (IA)	AC
P252	QPLGN0785CEZZ	R	Plug, 7-pin (IB)	AC
SLD251	PSLDM0265PEFW	J	Shield	AD
SLD252	PSLDM0266PEFW	J	Shield	AC
TP251	QLUGP0102PEZZ	J	Lug, Test Point	AA
TP252	QLUGP0102PEZZ	J	Lug, Test Point	AA
TP253	QLUGP0102PEZZ	J	Lug, Test Point	AA

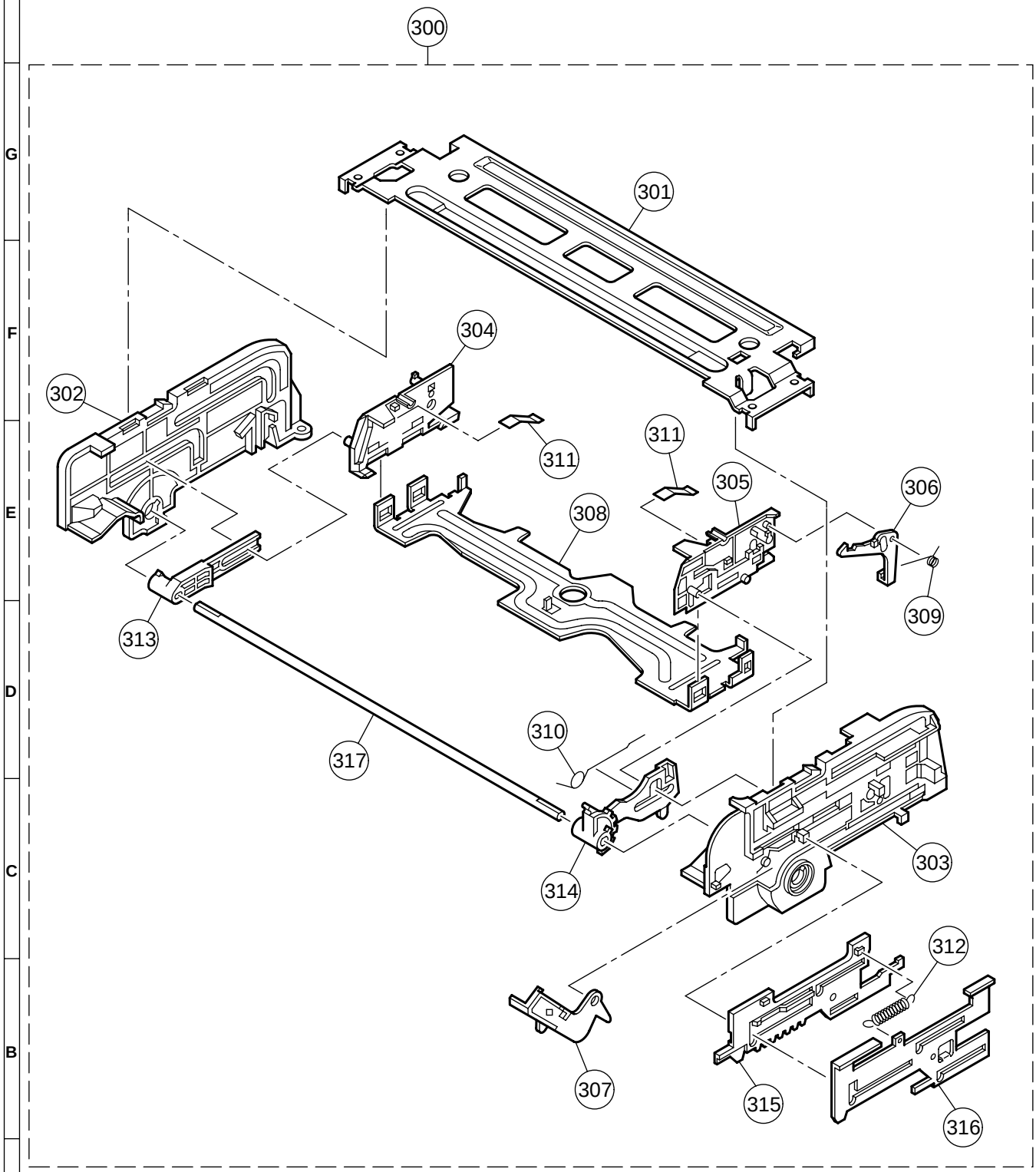
MECHANISM CHASSIS PARTS



MECHANISM CHASSIS PARTS

Ref. No.	Part No.	★	Description	Code
1	LBNDK1011AJZZ	V	Tension Band Ass'y	AH
2	LBOSZ1007AJZZ	V	Tension Arm Boss	AD
4	LBOSZ1006AJZZ	V	Cassette Stay L	AD
5	LCHSM0166AJZZ	V	Main Chassis Ass'y (VT-G14)	BA
5	LCHSM0170AJZZ	V	Main Chassis Ass'y (VT-G21)	BA
6	LHLDZ2016AJZZ	V	Loading Motor Block	AG
7	LPOLM0063GEZZ	J	Supply Pole Base Ass'y (VT-G14)	AM
7	LPOLM0070GEZZ	J	Supply Pole Base Ass'y (VT-G21)	AK
8	LPOLM0064GEZZ	J	Take-Up Pole Base Ass'y	AM
9	MLEVF0518AJZZ	V	Take-Up Loading Arm Ass'y	AF
10	MLEVF0519AJZZ	V	Supply Loading Arm Ass'y	AF
11	MLEVF0499AJZZ	V	Pinch Drive Lever Ass'y	AG
12	MLEVF0500GEZZ	J	Pinch Roller Lever Ass'y	AW
15	MLEVF0496AJZZ	V	Tension Arm Ass'y	AK
16	LANGF9620AJFW	V	A/C Head Plate	AG
17	MLEVP0271AJZZ	V	Shifter Drive Lever	AE
18	MLEVP0272AJZZ	V	Pinch Double Action Lever	AD
19	MLEVP0301AJZZ	V	Reverse Guide Lever Ass'y	AL
20	MLEVP0275AJZZ	V	Reverse Drive Lever	AD
21	MLEVP0292AJZZ	V	Slow Brake Lever	AE
22	MLEVP0290AJZZ	V	Open Lever	AD
23	MLEVP0293AJZZ	V	Clutch Lever	AE
24	MLEVP0294AJZZ	V	Supply Main Brake Ass'y	AF
25	MLEVP0295AJZZ	V	Take-Up Main Brake Ass'y	AF
26	CLEVP0287AJZZ	V	Auto Head Cleaner Ass'y	AG
27	MSLiP0010AJZZ	V	Shifter	AH
29	MSPRD0175AJFJ	V	Reverse Guide Spring 2	AE
30	MSPRT0402AJFJ	V	Loading Double Action Spring	AE
31	MSPRT0403AJFJ	V	Pinch Double Action Spring	AD
32	MSPRC0213AJFJ	V	Earth Spring	AC
33	MSPRT0416AJFJ	V	Tension Spring	AD
34	NBLTK0067AJ00	V	Drive Belt	AE
35	NDAiV1078AJ00	V	Reel Disk	AE
36	NGERH1293AJZZ	V	Loading Connect Gear	AD
37	NGERH1295AJ00	V	Master Cam	AE
38	NGERH1294AJZZ	V	Casecon Drive Gear	AD
39	NGERH1270AJZZ	V	Take-Up Loading Gear	AF
40	NGERH1271AJZZ	V	Supply Loading Gear	AD
41	NGERH1272AJZZ	V	Pinch Drive Cam	AE
43	NGERH1299AJZZ	V	Reel Relay Gear	AE
44	NGERW1070AJZZ	V	Worm Gear	AD
45	NGERW1066AJZZ	V	Worm Wheel Gear	AD
46	NiDR-0018AJZZ	V	Idler Wheel Ass'y	AK
47	NPLYV0162AJZZ	V	Motor Pulley	AD
48	NPLYV0163AJZZ	V	Limitter Pulley Ass'y	AM
49	NROLP0131GEZZ	J	Guide Roller	AL
50	NSFTP0032AJZZ	V	Tension Pole Adjuster	AB
51	MSPRC0217AJFJ	V	Guide Roller Spring	AC
52	PREFL1011AJZZ	V	Light Guide	AE
53	QCNW-0247AJZZ	V	FFC for Drum Motor	AG
55	QCNW-0272AJZZ	V	FFC for A/C Head	AF
56	QPWBF5469AJZZ	V	A/C Head PWB	AE
57	QSOCN0605REN1	V	Socket, 6-pin	AB
58	RHEDT0036AJZZ	V	Full Erase Head	AM
59	RHEDU0088GEZZ	J	A/C Head Ass'y	AV
60	RMOTM1078GEZZ	J	Loading Motor	AP
61	RMOTN2055GEZZ	J	Capstan Motor	BA
62	RMOTP1135GEZZ	J	Drum Drive Motor	AX
63	DDRMW0028TEX3	V	Upper and Lower Drum Ass'y	BP
65	QBRSK0041GEZZ	V	Drum Earth Brush	AD
66	XBPSD26P05J00	V	Drum Drive Motor Mounting Screw (SW2.6P+5S)	AA
67	PGiDC0056GEFW	J	Drum Base	AL
68	QPWBF5468AJZZ	V	PWB (LDG Motor)	AE
69	QPLGZ0292GEZZ	J	Socket (LDG Motor)	AE
70	MSPRC0223AJFJ	V	Azimuth Spring	AC
71	MSPRC0224AJFJ	V	Height Adjusting Spring	AC
72	CARMP0059GE01	V	I-Roller Arm Ass'y (VT-G21)	AS
73	MSPRD0183GEFJ	V	I-Roller Arm Spring (VT-G21)	AC

CASSETTE HOUSING CONTROL PARTS



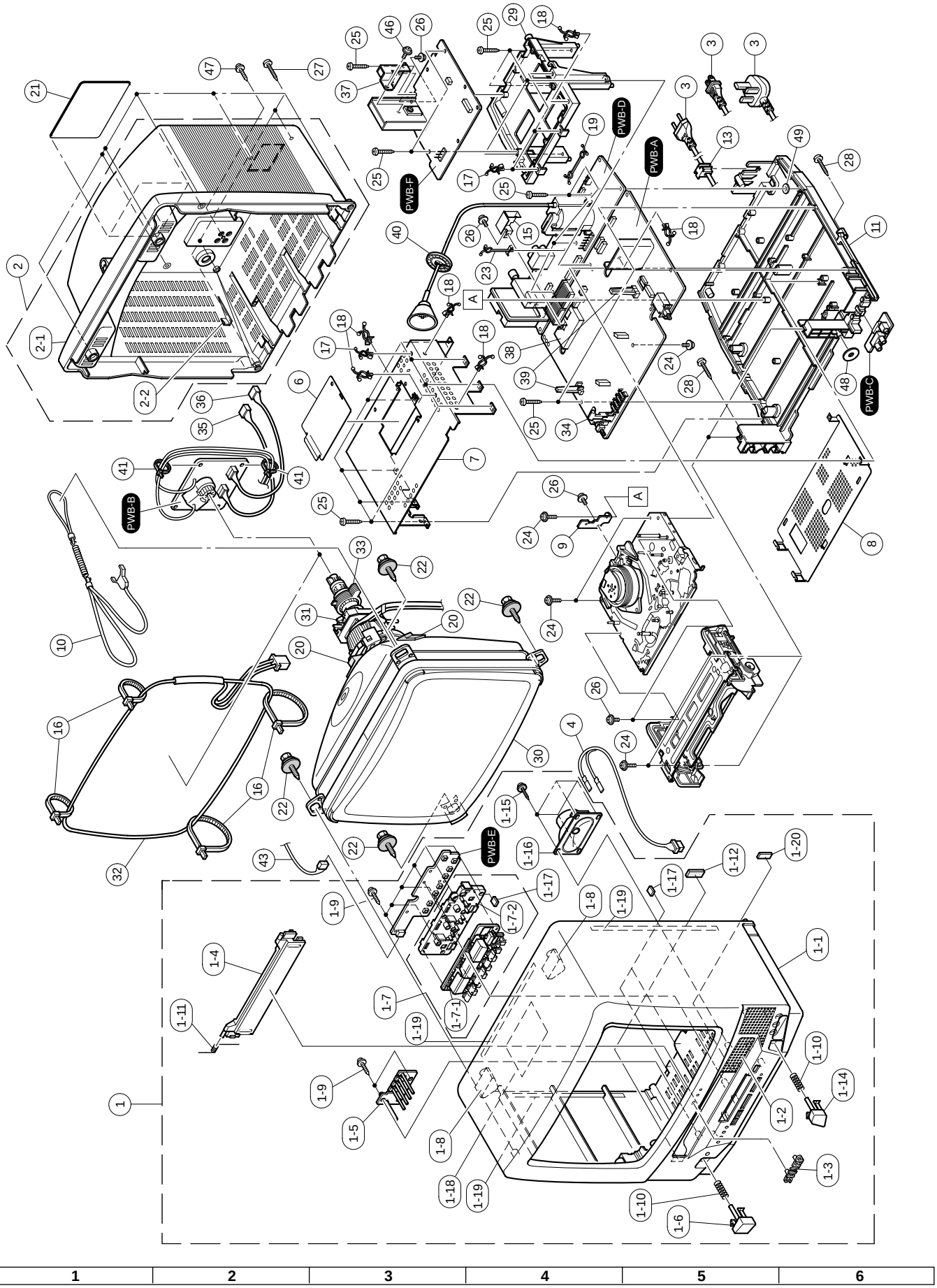
SCREW, NUTS AND WASHERS

Ref. No.	Part No.	★	Description	Code
201	XBPSD26P08000	V	Screw 2.6P+8S A/C Head	AA
202	LX-HZ3082GEZZ	J	A/C Head Screw	AD
203	XHPSD26P06000	V	Screw, C2.6P+6S (For Capstan Motor)	AA
207	XHPSD30P08WS0	V	Screw, C3.0P+6S (For Drum Base)	AA
208	XRESJ30-06000	V	E-Ring, E-3	AA
209	XWHJZ31-05052	V	Washer, W3.1-5.2-0.5	AC
210	XWHJZ31-03052	V	Washer, W3.1-5.2-0.3	AC
211	XWHJZ31-04052	V	Washer, W3.1-5.2-0.4	AC
212	XWHJZ31-06052	V	Washer, W3.1-5.2-0.6	AC
213	XWHJZ31-07052	V	Washer, W3.1-5.2-0.7	AC
214	PSPAP0009AJZZ	V	Reverse Guide Adjusting Nut	AB
216	LX-WZ1041GE00	J	CW 2.6-6-0.5 CAM/I-Roller	AA
218	XBPSD30P08J00	V	Drum Base Mounting Screw(SW 3P+8S)	AA
219	LX-WZ1098GE00	J	CW 2.6-4.7-10.5 RED	AB
220	LX-BZ3096GEFD	J	Tilt Adjusting Screw	AA
221	XBPSD26P06000	V	Azimuth Adjusting Screw 2.6+6S	AA
222	LX-BZ3197GEFD	J	Screw (A/C Head)	AD
223	XWHJZ31-08052	V	Washer, W3.1-5.2-0.8	AC
224	LX-RZ3015GEFJ	V	CS Washer.3	AB

CASSETTE HOUSING CONTROL PARTS

Ref. No.	Part No.	★	Description	Code
300	CHLDX3081TEV2	V	Cassette Housing Control Ass'y	AX
301	LANGF9592AJFW	V	Upper Plate	AL
302	LHLDX1028AJ00	V	Frame (L)	AH
303	LHLDX1032AJ00	V	Frame (R)	AH
304	LHLDX1030AJZZ	V	Holder (L)	AE
305	LHLDX1031AJZZ	V	Holder (R)	AE
306	MLEVF0469AJFW	V	Proof Lever (R)	AE
307	MLEVP0281AJ00	V	Door Open Lever	AD
308	MSLiF0076AJFW	V	Slider	AK
309	MSPRD0151AJFJ	V	Proof Lever (R) Spring	AB
310	MSPRD0166AJFJ	V	Drive Gear (R) Spring	AE
311	MSPRP0175AJFJ	V	Cassette Spring	AE
312	MSPRT0381AJFJ	V	Double Action Spring	AC
313	NGERH1278AJZZ	V	Drive Gear L	AE
314	NGERH1309AJZZ	V	Drive Gear R	AE
315	NGERR1008AJ00	V	Double Action Rack Gear	AE
316	NGERR3005AJFW	V	Drive Angle Gear	AG
317	NSFTD0041AJFD	V	Main Shaft	AH

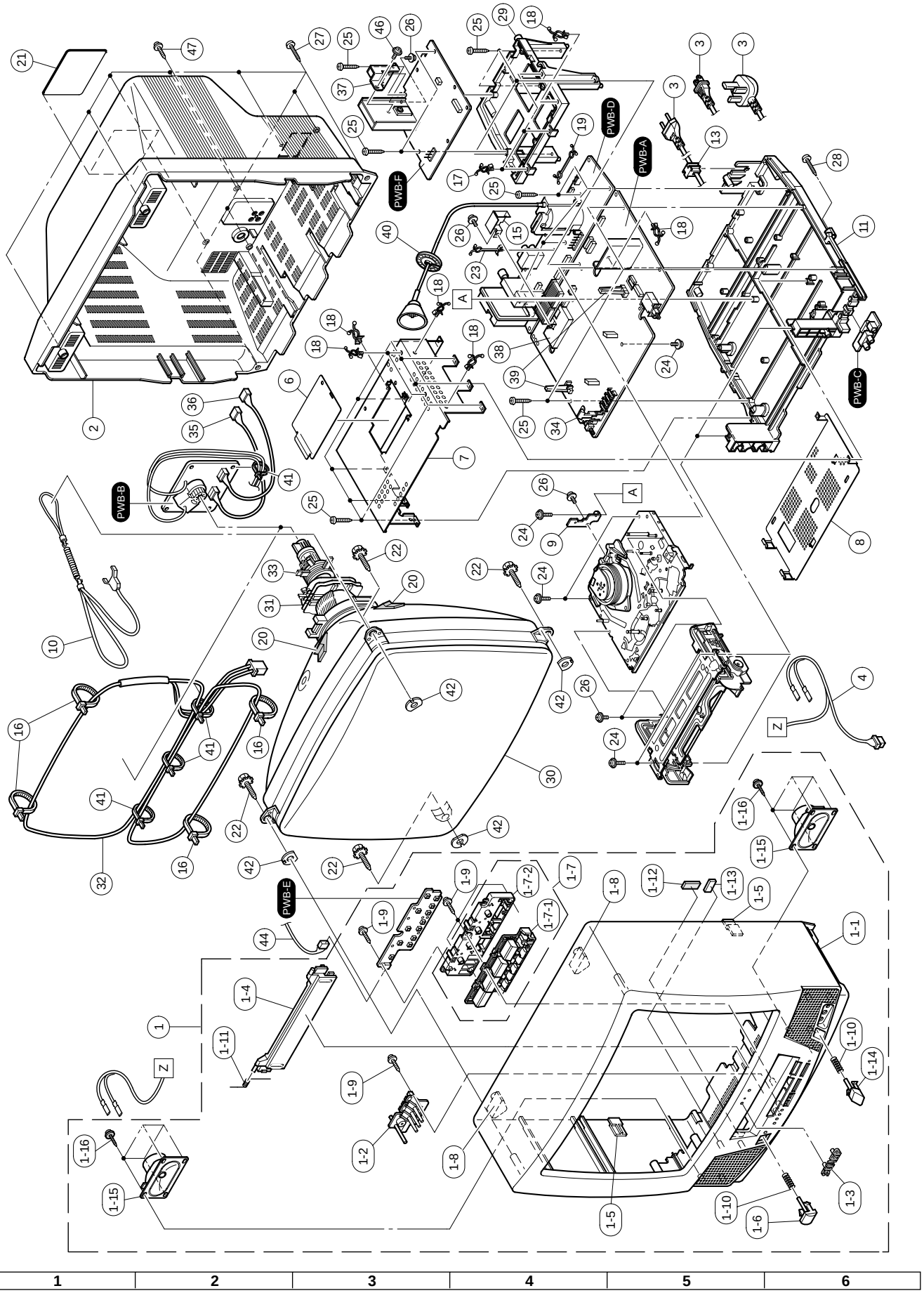
MODEL VT-G14 CABINET AND MECHANICAL PARTS



CABINET MECHANICAL PARTS
MODEL VT-G14

Ref. No.	Part No.	★	Description	Code
1	CCABA2458WEV0	R	Front Cabinet Ass'y	BH
1-1	*Not Available*	–	Front Cabinet	—
1-2	HDECQ0109PESC	R	Punching Plate	AD
1-3	HBDGB0014PESB	R	Badge, "SHARP"	AE
1-4	HDECQ0122PESA	R	VCR Flap	AH
1-5	GCOVA0094PESA	R	LED Decoration	AE
1-6	JBTN-0293PESC	R	Button, Power	AD
1-7	CBTN-0294WEV0	R	Button Ass'y, VCR Control	AQ
1-7-1	*Not Available*	–	Button, VCR Control	—
1-7-2	LHLDZ0108PEZZ	R	Holder	AG
1-8	LHLDZ0040PEZZ	R	Holder, x2	AC
1-9	LX-TZ3004CEFD	R	Screw, x8	AA
1-10	MSPRC0005PEFW	R	Spring, for Power Button, x2	AB
1-11	MSPRD0123AJFJ	R	Spring, for VCR Flap	AC
1-12	PSPAH0012PE00	R	Spacer, x1	AA
1-14	JBTN-0295PESA	R	Button, Main Power	AC
1-15	LX-TZ0012PEFD	R	Screw, x4	AC
1-16	VSP9050PB20WA	R	Speaker, x1	AP
1-17	PSPAH0039PE00	R	Spacer	AA
1-18	PZETV0024PEKZ	R	Insulator	AF
1-19	PSPAH0053PE00	R	Spacer, x3	AD
1-20	PSPAH0034PE00	R	Spacer	AA
2	CCABB2350WEV0	R	Rear Cabinet Ass'y	BA
2-1	*Not Available*	–	Rear Cabinet	—
2-2	LHLDZ0110PEZZ	R	Holder	AC
⚠ 3	QACCZ2008PEZZ	R	AC Cord	AM
4	QCNW-2273PEZZ	R	Connecting Wire	AG
6	PSLDM0250PEFW	R	Shield Cover (Top)	AD
7	PSLDM0272PEFW	R	Shield (Top)	AN
8	PSLDM0273PEFW	R	Shield (Bottom)	AG
9	LANGT0038PEFW	R	Angle	AC
10	QEARC1414PEZZ	R	Wire, Grounding Strap	AK
11	LCHSM0074PEZZ	R	Main Chassis Frame	AU
13	LHLDK0002PEK0	R	AC Cord Holder	AA
15	PSLDM0253PEFW	R	Shield Angle	AC
16	LHLDW0003PEKZ	R	Degaussing Coil Holder, x4	AC
17	LHLDW1047PEZZ	R	Wire Holder, x4	AB
18	LHLDW1019PEZZ	R	Wire Holder, x6	AB
19	LHLDW1074PEKZ	R	Wire Holder	AD
20	PSPAG0004PEZZ	R	Wedge (Gum), x3	AB
21	TLABM1402PEZZ	R	Model Label	AC
22	LX-TZ0013PEFD	R	Screw, for CRT, x4	AD
23	LHLDW1002PEZZ	R	Wire Holder	AB
24	LX-HZ3001PEFD	R	Screw, x6	AA
25	XEBSD30P12000	R	Screw, x22	AA
26	XHPSD30P06WS0	R	Screw, x5	AA
27	XTASD40P20000	R	Screw, x9	AA
28	XTASD40P20000	R	Screw, x2	AA
29	LCHSM0075PEZZ	R	Power Chassis Frame	AP
⚠ 30	VB370BVBK1S-S	R	Picture Tube (V801)	BZ
⚠ 31	RCiLH0140PEZZ	R	Deflection Yoke (DY601)	BC
⚠ 32	RCiLG0031PEZZ	R	Degaussing Coil (L799)	AN
	or			
	RCiLG0080PEZZ	R	Degaussing Coil (L799)	AL
33	PMAGF3006CEZZ	R	Purity Magnet	AK
34	QSW-F0042AJZZ	R	Rec Tip Switch (S7701)	AG
35	QCNW-2243PEZZ	J	Connecting Wire (H)	AF
36	QCNW-2241PEZZ	J	Connecting Wire (K)	AF
37	LANGT0036PEFW	R	Radiator Angle	AC
38	PSLDM0251PEFW	R	Shield	AD
39	RH-PX0223GEZZ	R	Start/End Sensor	AF
40	LHLDZ1759CEKZ	R	Holder	AB
41	LHLDW1074PEKZ	R	Wire Holder	AD
43	QCNW-5240PEN3	R	Connecting Wire	AD
46	LX-BZ3100CEFD	R	Screw, x1	AA
47	LX-TZ3004CEFD	R	Screw, x1	AA
48	PSPAG0022PE00	R	Wedge	AC
49	LX-WZ0018PEZZ	R	Washer	AB

MODEL VT-G21 CABINET AND MECHANICAL PARTS



CABINET MECHANICAL PARTS
MODEL VT-G21

Ref. No.	Part No.	★	Description	Code
1	CCABA2457WEV0	R	Front Cabinet Ass'y	BM
1-1	*Not Available*	–	Front Cabinet	—
1-2	GCOVA0091PESA	R	LED Decoration	AE
1-3	HBDGB0019PESA	R	Badge, "SHARP"	AD
1-4	HDECQ0123PESA	R	VCR Flap	AH
1-5	LHLDZ0015PEZZ	R	Holder, x2	AD
1-6	JBTN-0287PESB	R	Button, Power	AC
1-7	CBTN-0297WEV0	R	Button Ass'y, VCR Control	AR
1-7-1	*Not Available*	–	Button, VCR Control	—
1-7-2	LHLDZ0107PEZZ	R	Holder	AG
1-8	LHLDZ0040PEZZ	R	Holder, x2	AC
1-9	LX-TZ3004CEFD	R	Screw, x4	AA
1-10	MSPRC0005PEFW	R	Spring, for Power Button	AB
1-11	MSPRD0123AJFJ	R	Spring, for VCR Flap	AC
1-12	PSPAH0012PE00	R	Spacer, x1	AA
1-13	PSPAH0111PE00	R	Spacer	AB
1-14	JBTN-0296PESA	R	Button, Main Power	AE
1-15	VSP9050P-188A	R	Speaker, x2	AP
1-16	LX-TZ0012PEFD	R	Screw, x8	AC
2	GCABB2357PEKA	R	Rear Cabinet	BE
⚠ 3	QACCZ2008PEZZ	R	AC Cord	AM
4	QCNW-2246PEZZ	R	Connecting Wire	AH
6	PSLDM0250PEFW	R	Shield Cover (Top)	AD
7	PSLDM0272PEFW	R	Shield (Top)	AN
8	PSLDM0273PEFW	R	Shield (Bottom)	AG
9	LANGT0038PEFW	R	Angle	AC
10	QEARC2101PEZZ	R	Wire, Grounding Strap	AK
11	LCHSM0074PEZZ	R	Main Chassis Frame	AU
13	LHLDK0002PEK0	R	AC Cord Holder	AA
15	PSLDM0253PEFW	R	Shield Angle	AC
16	LHLDW0003PEKZ	R	Degaussing Coil Holder, x4	AB
17	LHLDW1047PEZZ	R	Wire Holder, x3	AB
18	LHLDW1019PEZZ	R	Wire Holder, x7	AB
19	LHLDW1074PEKZ	R	Wire Holder, x1	AD
20	PSPAG0003PEZZ	R	Wedge (Gum), x3	AD
21	TLABM1407PEZZ	R	Model Label	AC
22	LX-TZ0017PEFD	R	Screw, for CRT, x4	AF
23	LHLDW1074PEKZ	R	Wire Holder, x1	AD
24	LX-HZ3001PEFD	R	Screw, x6	AA
25	XEBSD30P12000	R	Screw, x22	AA
26	XHPSD30P06WS0	R	Screw, x5	AA
27	XTASD40P20000	R	Screw, x9	AA
28	XTASD40P20000	R	Screw, x1	AA
29	LCHSM0075PEZZ	R	Power Chassis Frame	AP
⚠ 30	VB540ADAC1S*S	R	Picture Tube (V801)	CG
⚠ 31	RCiLH0146PEZZ	R	Deflection Yoke (DY601)	BF
⚠ 32	RCiLG0025PEZZ	R	Degaussing Coil (L799)	AW
	or			
	RCiLG0069PEZZ	R	Degaussing Coil (L799)	AR
33	PMAGF3003CEZZ	R	Purity Magnet	AK
34	QSW-F0042AJZZ	R	Rec Tip Switch (S7701)	AG
35	QCNW-2244PEZZ	J	Connecting Wire	AG
36	QCNW-2242PEZZ	J	Connecting Wire	AF
37	LANGT0036PEFW	R	Radiator Angle	AC
38	PSLDM0251PEFW	R	Shield	AD
39	RH-PX0223GEZZ	R	Start/End Sensor	AF
40	LHLDW1759CEKZ	R	Holder	AB
41	LHLDW1074PEKZ	R	Holder, x4	AB
42	LX-WZ0002PEFD	R	Washer, x4	AC
44	QCNW-5225PEN3	R	Connecting Wire	AD
46	LX-BZ3100CEFD	R	Screw, x1	AA
47	LX-TZ3004CEFD	R	Screw, x1	AA

SUPPLIED ACCESSORIES

ACCESSORIES

RRMCG1456PESA	R	Infrared R/C Unit	AV
TiNS-6458PEZZ	R	Operation Manual	AL

PACKING PARTS
(NOT REPLACEMENT ITEM)

MODEL VT-G14

SPAKC6349PEZZ	–	Packing Case	—
SPAKP0110PEZZ	–	Polystyrene Cover	—
SSAKH0015PEZZ	–	Polystyrene Sack	—
SPAKX2680PEZZ	–	Buffer Material	—
TLABK0002PEZZ	–	Number Card	—
TLABN0001PEZZ	–	Serial Number Label	—

MODEL VT-G21

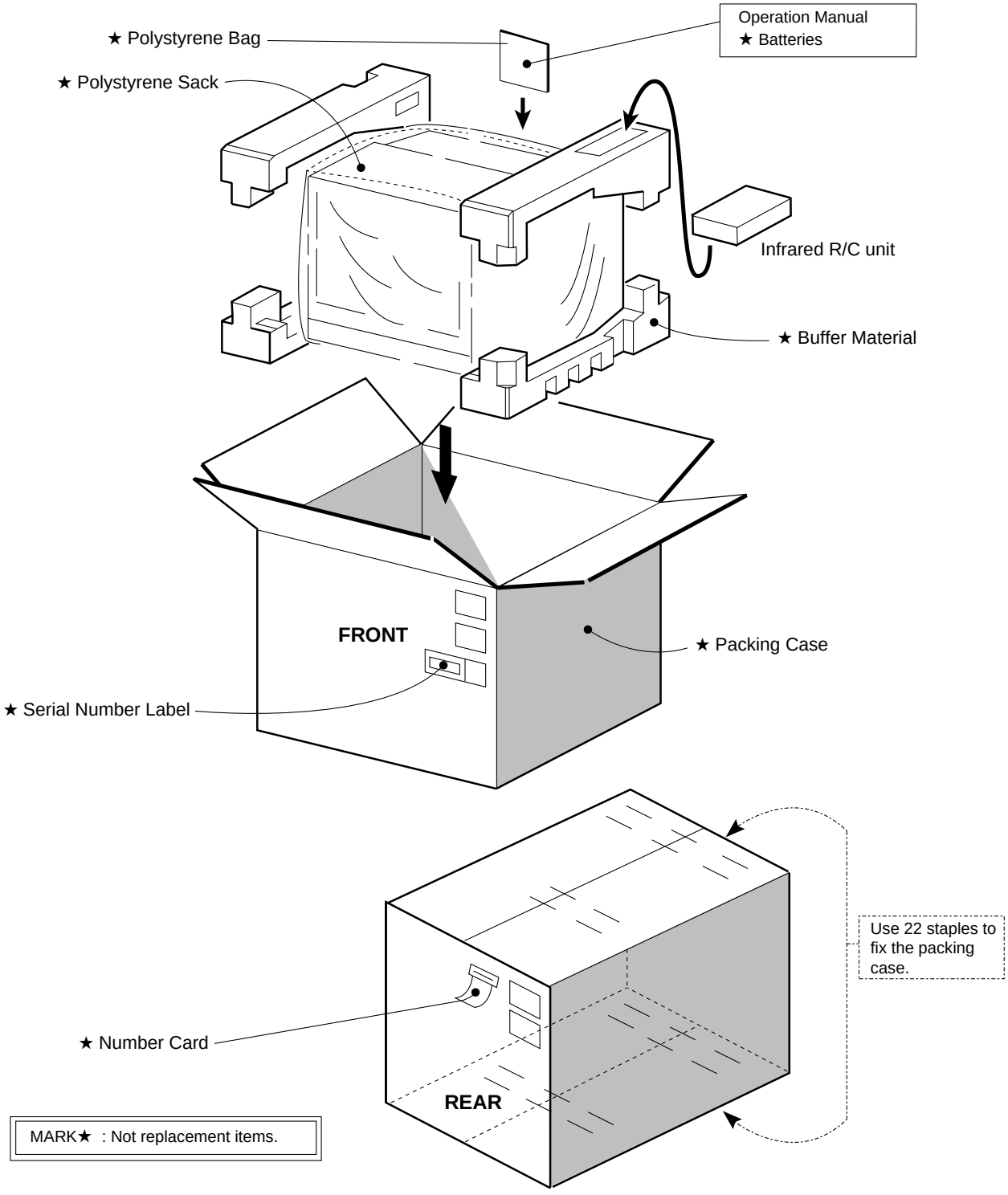
SPAKC6356PEZZ	–	Packing Case	
SPAKP0110PEZZ	–	Polystyrene Cover	—
SSAKH0016PEZZ	–	Polystyrene Sack	—
SPAKX2683PEZZ	–	Buffer Material	—
TLABK0002PEZZ	–	Number Card	—
TLABN0001PEZZ	–	Serial Number Label	—

PACKING OF THE SET (VT-G14)

- Setting positions of the knobs

INITIAL CH POSITION	1ch
SOUND VOLUME	00
COLOUR SYSTEM	(AUTO)
SOUND SYSTEM	B/G, D/K or I
BLUE BACKGROUND	(ON)
VIDEO ADJUST	(RESET)

POWER	LAST POWER ON
MAIN SWITCH	(OFF)
TAPE SPEED	(SP)
WOUND-UP	(OFF)
SLEEP TIMER	(OFF)
CLOCK	(OFF)

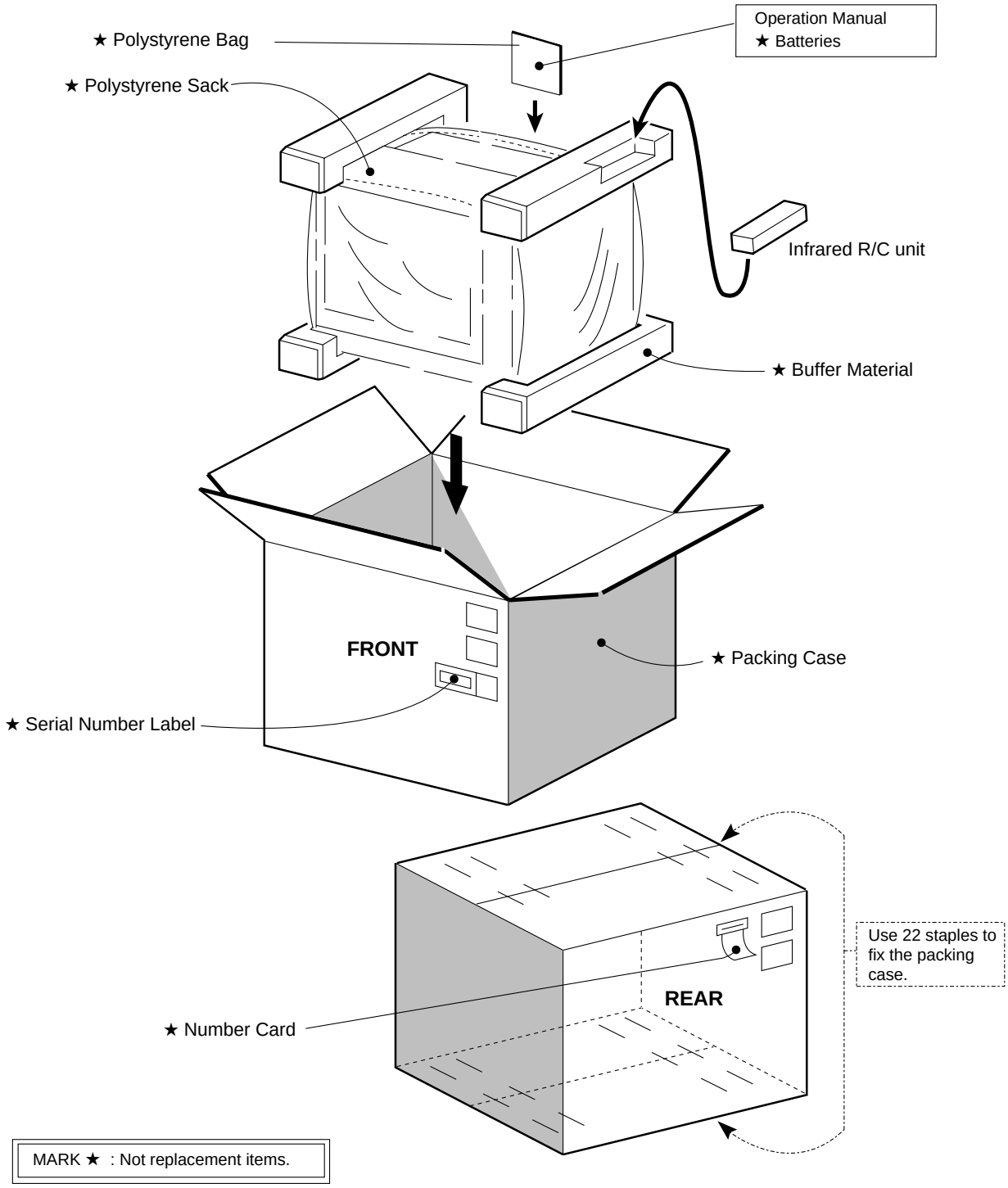


PACKING OF THE SET (VT-G21)

- Setting positions of the knobs

INITIAL CH POSITION	1ch
SOUND VOLUME	00
COLOUR SYSTEM	(AUTO)
SOUND SYSTEM	B/G, D/K or I
BLUE BACKGROUND	(ON)
VIDEO ADJUST	(RESET)

POWER	LAST POWER ON
MAIN SWITCH	(OFF)
TAPE SPEED	(SP)
WOUND-UP	(OFF)
SLEEP TIMER	(OFF)
CLOCK	(OFF)



MARK ★ : Not replacement items.

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